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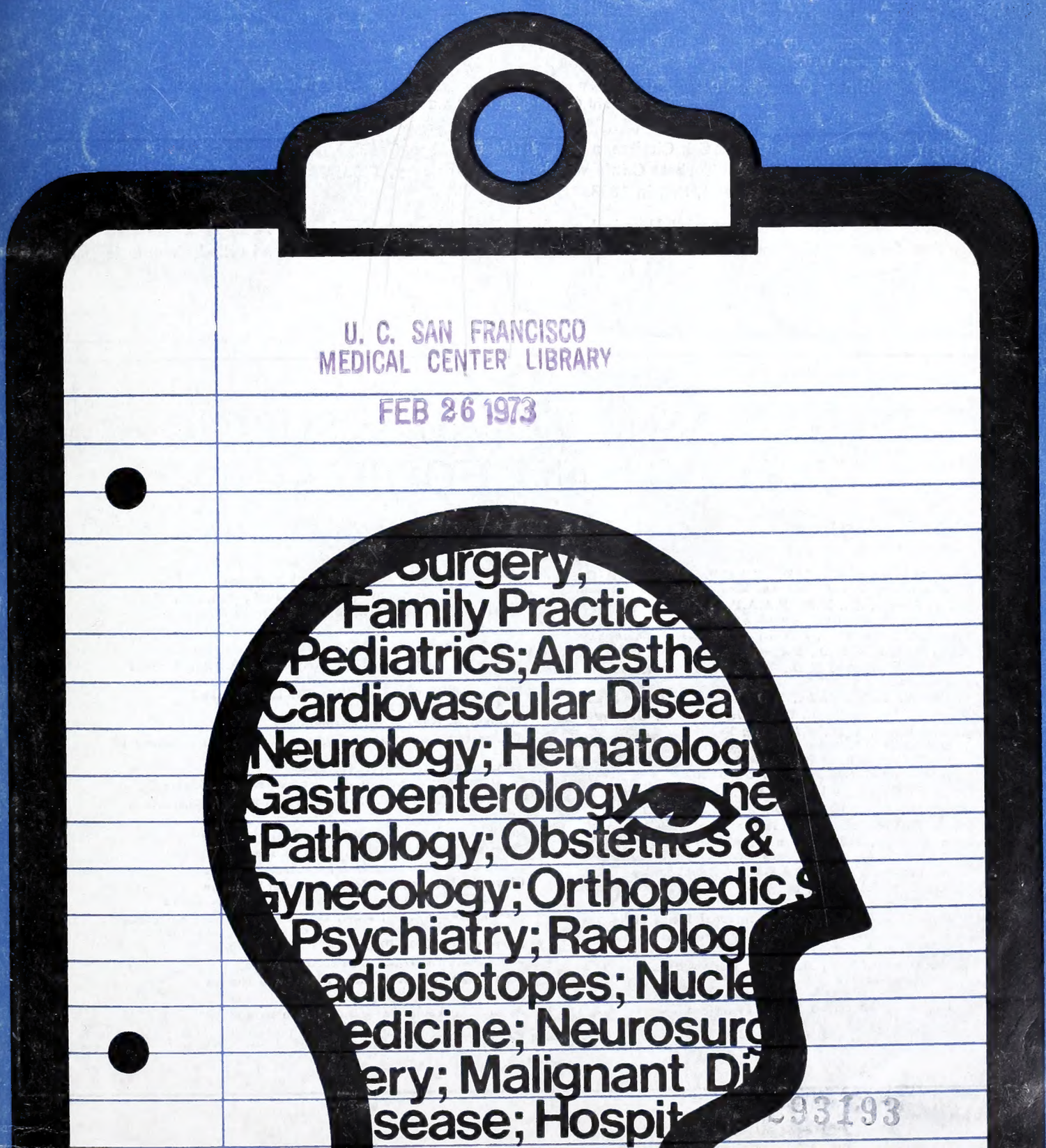
Texas Medicine

Continuing education directory

Medical foundation considered

Lethal drug reactions

JANUARY 1973



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Precautions: In the elderly and debilitated, and in children over six, limit to smallest effective dosage (initially 10 mg or less per day) to preclude ataxia or oversedation, increasing gradually as needed and tolerated. Not recommended in children under six. Though generally not recommended, if combination therapy with other psychotropics seems indicated, carefully consider individual pharmacologic effects, particularly in use of potentiating drugs such as MAO inhibitors and phenothiazines. Observe usual precautions in presence of impaired renal or hepatic function. Paradoxical reactions (*e.g.*, excitement, stimulation and acute rage) have been reported in psychiatric patients and hyperactive aggressive children. Employ usual precautions in treatment of anxiety states with evidence of impending depression; suicidal tendencies may be present and protective measures necessary. Variable effects on blood coagulation have been reported very rarely in patients receiving the drug and oral anticoagulants; causal relationship has not been established clinically.
Adverse Reactions: Drowsiness, ataxia and confusion may occur, especially in the elderly and debilitated. These are reversible in most instances by proper dosage adjustment, but are also occasionally observed at the lower dosage ranges. In a few instances syncope has been reported. Also encountered are isolated instances of skin eruptions, edema, minor menstrual irregularities, nausea and constipation, extrapyramidal symptoms, increased and decreased libido—all infrequent and generally controlled with dosage reduction; changes in EEG patterns (low-voltage fast activity) may appear during and after treatment; blood dyscrasias (including agranulocytosis), jaundice and hepatic dysfunction have been reported occasionally, making periodic blood counts and liver function tests advisable during protracted therapy.
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ON THE COVER

The design is a graphic reminder that the physician's life is one of learning, and that this issue contains the 1973 edition of the Texas Continuing Education Directory (green section). With nearly twice as many listings as last year, it is the most comprehensive single source of information available on continuing education courses for physicians in Texas.

NEXT MONTH

Scientific articles in February will be on isometric exercise and the cardiac patient, live attenuated rubella virus vaccine in a private pediatric practice, new criteria for juvenile rheumatoid arthritis, developments in transient hemorrhagic disorders, and post-streptococcal glomerulonephritis.

1973 Texas Continuing Education Directory (green section, following page 140.)

Texas Medicine
VOL 69 JANUARY 1973

Devoted to the interest of the medical profession and public health in Texas

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Subscriptions: $3 per year for members; $6 for nonmembers; $8 for foreign; $5 for libraries, hospitals, and universities; $3 for medical students. Single copy: $1.

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Pinworm therapy is often a family affair

Contraindications: History of hypersensitivity to thiabendazole.
Warnings: If hypersensitivity reactions occur, drug should be discontinued immediately and not resumed. Rarely, erythema multiforme has been associated with thiabendazole therapy; in severe cases (Stevens-Johnson syndrome), fatalities have occurred. Because CNS side effects may occur quite frequently, activities requiring mental alertness should be avoided. Safe use in pregnancy or lactation has not been established.
Precautions: Ideally, supportive therapy is indicated for anemic, dehydrated, or malnourished patients prior to initiation of anthelmintic therapy. In presence of hepatic or renal dysfunction, patients should be carefully monitored.
Adverse Reactions: Most frequently encountered are anorexia, nausea, vomiting, and dizziness. Less frequently, diarrhea, epigastric distress, pruritus, weariness, drowsiness, giddiness, and headache have occurred. Rarely, tinnitus, hyperirritability, numbness, abnormal sensation in eyes, blurring of vision, xanthopsia; hypotension, collapse; enuresis; transient rise in cephalin flocculation and SGOT; perianal rash, cholestasis and parenchymal liver damage; hyperglycemia; transient leukopenia; malodor of the urine, crystalluria, hematuria; appearance of live Ascaris in the mouth and nose. Hypersensitivity reactions

A New Dosage Form:

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so easy to take everyone in the family can keep to the regimen you prescribe

include: fever, facial flush, chills, conjunctival injection, angioedema, anaphylaxis, skin rashes, erythema multiforme (including Stevens-Johnson syndrome), and lymphadenopathy.
Supplied: Chewable tablets, containing 500 mg thiabendazole, in boxes of 36, strip packaged, individually foil wrapped; Suspension, containing 500 mg thiabendazole per 5 cc, in bottles of 120 cc.

For more detailed information, consult your MSD representative or see full prescribing information. Merck Sharp & Dohme, Division of Merck & Co., Inc., West Point, Pa. 19486

addendum

MSD MERCK SHARP & DOHME

INDICATION | DOSAGE SCHEDULE

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The recommended maximum daily dose of MINTEZOL is 3 g (6 tablets).
MINTEZOL should be given after meals if possible. Dietary restriction, complementary medications, and cleansing enemas are not needed.
The usual dosage schedule for all conditions is two doses per day. The size of the dose is determined by the patient's weight.

Weight-dose chart:

WEIGHT (lb)	EACH DOSE (g)	TABLETS
25	0.25	½
50	0.5	1
75	0.75	1½
100	1.0	2
125	1.25	2½
150 & over	1.5	3

The regimen for each indication follows:

INDICATION	REGIMEN	COMMENTS
Pinworm disease	Two doses per day for 1 day. Repeat in 7 days. This regimen is designed to reduce the risk of reinfection.	If this is not practical, give 2 doses per day for 2 successive days.
Threadworm,* large roundworm,* hookworm,* and whipworm* disease	Two doses per day for 2 successive days.	A single dose of 20 mg/lb or 50 mg/kg may be employed as an alternative schedule, but a higher incidence of side effects should be expected.
Creeping eruption	Two doses per day for 2 successive days.	If active lesions are still present 2 days after completion of therapy, a second course is recommended.
Symptoms of trichinosis* during the invasive phase of the disease	Two doses per day for 2 to 4 successive days according to the response of the patient.	The optimal dosage for the treatment of trichinosis has not been established.

*Clinical experience with thiabendazole for treatment of each of these conditions in children weighing less than 30 lb has been limited.

NEWS

House of Delegates meets to discuss Texas Medical Foundation

The House of Delegates of the Texas Medical Association is meeting in special session in Austin this month to discuss the merits of implementing a medical foundation which would serve the physicians of Texas, and to consider actions already adopted toward that goal by the Association's Executive Board and the Board of Trustees.

The medical foundation concept is one which is becoming more and more popular throughout the United States. A foundation can carry out programs which an association cannot, and its purposes, organization, and function can vary according to the needs of a specific population.

The term itself is defined as "an autonomous corporation sponsored and organized by a medical society with membership open to all licensed physicians who voluntarily apply."

The Texas Medical Foundation, as defined in its articles of incorporation and the bylaws, would act as an advocate for the physician with the purposes of preserving the physician-patient relationship; perpetuating freedom of choice for the physician and patient; promoting the distribution of medical and health services to the people of Texas; and protecting the public health.

Much preliminary work on defining the specific purposes and functions of the Texas Medical Foundation has already been done by the TMA Task Force on the Implementation of the Texas Medical Foundation and TMA's Executive Board and Board of Trustees.

As envisioned by the Task Force, the Texas Medical Foundation would provide an organization which is the advocate of the physician in the socio-economic field; is able to represent and negotiate for its members; has programs to benefit the physician in the private practice of medicine and his office management; is organized for rapid action, yet answerable to a corporate membership; is based on the regional organization and representation concept; and is able to perform many functions which TMA, by law, cannot, while remaining closely tied to TMA.

The essential function of the Texas Medical Foundation as seen by the Task Force and approved by the Board of Trustees, would be to represent and support the physician both individually and collectively.

Six categories of activity which the Texas Medical Foundation would undertake have been delineated by the Task Force. They are:

generation of physician-controlled data on the private practice of medicine; finding a solution to the paperwork problem; providing services to support private practice (i.e. business management services, practice information, claims service and so on); evaluating medical care; finding information and helping to alleviate the medical manpower problem; and working to provide medical care for the poor.

Any physician who is licensed by the state of Texas would be eligible to apply for membership in the Texas Medical Foundation. Membership would be voluntary and renewable on an annual basis. The physician who elects to apply and is accepted for membership would retain his freedom of choice of patient, maintain the physician-patient relationship unchanged; practice medicine as before; and participate in the programs and services of the Foundation. In addition, he would be represented by the Foundation in negotiations with government and third parties.

Membership does carry the responsibility to honor the terms of any contract negotiated or the specifications of any program initiated by the Foundation in which the physician wishes to participate.

The physician who is not a member would continue his practice unchanged retaining his freedom of choice of patient and his patient relationship. The programs and activities sponsored by the Foundation would be available only to members, however, and local standards of peer review would be applied to all services rendered to patients covered under the local or state foundation programs or contracts.

Organizationally, the Texas Medical Foundation would have four levels: the Board of Trustees, the corporate membership, regional councils and county medical foundations.

The corporate members would elect members of the Board of Trustees, and local county foundations would elect representatives to the regional body, which, in turn, would nominate physicians for election by corporate members to the Board of Trustees.

Members of the TMA House of Delegates will be voting on the course these proposals will take Jan. 21 and 22 in Austin. Association members will be advised of further developments through issues of TMA Bulletin, TMA Action, and further articles in Texas Medicine.

NEWS

Medline links TMA members to National Library

The use of Medline, a service of the National Library of Medicine in Washington, D.C., is now available to all TMA members free of charge.

Medline provides a hook-up between the TMA Memorial Library and the National Library of Medicine's computer in Washington, and enables researchers to find bibliographic citations from more than 1,100 journals almost instantaneously. Medline's data base consists of 400,000 citations to articles in selected journals indexed in *Index Medicus* since Jan. 1, 1970.

Here's how it works. A TMA member who wishes to know where to find information on a specific topic either calls or comes by the Memorial Library in Austin. Here, he will fill out a Medline search request, stating as exactly as possible the information he wants to find (i.e., therapy for the bite of the brown recluse spider). If he is calling the library, he may give this information to one of the reference librarians.

The information is then taken by the Medline operator who finds the appropriate key words in the alphabetical list of medical subject headings. Then Medline is ready to go to work.

Medline connects the TMA Memorial Library to the National Library of Medicine in Washington, D.C. through this instrument panel. The typewriter-like keyboard is the sending device, and messages are received on the printer behind the keyboard. The transmitter, at right, connects the system into telephone lines.

The librarian uses a WATS line to get the TYMSHARE number in Houston, which has access to the computer in Washington. TYMSHARE is a network shared by the US government and others, with headquarters in northern California. TMA's call may be relayed through other cities before it gets to Washington.

When connected to the big computer in Washington, the librarian will request the information desired through a special data terminal which has a typewriter-like keyboard. The computer will then begin to search its memory banks and will relay the bibliographic citations back to the terminal at TMA headquarters.

TMA's terminal, manufactured by NCR, consists of a sending device, which looks much like a typewriter, and a receiver, which looks like the roller on a typewriter set into a rectangular box. Messages are sent and received via telephone lines. Incoming messages are printed on special paper, using the technique of thermal printing. The printing element consists of small thin-film heating elements arranged in a five by seven printing matrix. Each element can quickly attain the proper temperature for developing an image on heat-sensitive paper. The elements cool as quickly as they heat up, making it possible to print rapidly and quietly. The receiver uses regular bond paper coated with thermochromic chemicals.

Once the bibliographic citations are received, a process which usually takes only a few minutes, TMA reference librarians check them for relevance to the subject the physician wants information about. Relevant articles are copied and given to the TMA member who ordered the search. The whole process is usually complete within 24 hours of the time the request is received by the Library.

TMA has two Medline operators, Ferol Willbanks and Betty Afflerbach.

Miss Willbanks recently participated in a 13-day course given for the National Library of Medicine at The University of Southern California at Los Angeles. Miss Pauline Duffield is head librarian for the TMA.

Although Medline can provide citations on most subjects which were written about in a journal, it rarely will report techniques. Medline does not index books and most articles are in English, although some foreign language journals are indexed.

The system is updated periodically and information may be obtained from indexed journals dated Jan. 1, 1970, through Jan. 1, 1973.

Other Medline hook-ups are located in Dallas, San Antonio, Houston, Galveston, Arkansas, Louisiana, Oklahoma and New Mexico.

M. D. Anderson to be expanded

Major expansion plans for doubling the size of The University of Texas M. D. Anderson Hospital and Tumor Institute at Houston were announced Dec. 4 by Dr. R. Lee Clark, Anderson president.

Plans call for construction of the Lutheran Hospital Pavilion, a new Clinic Building and expanded radiotherapeutic facilities at a cost of $39.2 million.

When completed in late 1975, the Pavilion will add 350 beds to Anderson's existing 300 beds. New clinic facilities will be able to handle 1,000 1,200 outpatients a day, more than four times the number the current clinics were designed to accommodate.

The 14-floor hospital and 12-floor clinic will contain together 616,000 square feet, giving the cancer center a total of more than 1.2 million square feet.

Former Texas governor Allan Shivers has been named to head a development campaign to raise part of the funds needed to complete the program, which will make Anderson one of the world's largest facilities devoted solely to the study and treatment of neoplastic diseases.

"Although the State of Texas supports some of Anderson's operating budget, the constitution prohibits the Legislature from appropriating funds for this institution's capital expansion," Gov. Shivers explained at a Houston press conference.

This architect's rendering of the additions to the University of Texas M.D. Anderson Hospital and Tumor Institute shows the 350-bed Lutheran Hospital Pavilion, left, and the Clinic Building, right. The two new wings—which will adjoin the existing structure shown at rear—will double the institution's size, making it the world's largest cancer research and treatment center.

NEWS

3,146 respond to Texas Medicine survey

The results of the 1972 *Texas Medicine* readership survey are in, and they show that while TMA members remain highly interested in scientific articles, they would like to see a wide range of topics stressed in the Association publication.

There can be no doubt that the Texas physician wants to keep up with the latest developments in science, for 51% of the readers said scientific articles were the ones most often read or noticed fairly regularly. In addition, a whopping 81% of the respondents expressed a preference for articles of practical clinical value.

Despite this strong interest in scientific material, however, the survey also showed that Texas physicians are interested in reading about other events which affect the practice of medicine.Next to the contents pages, read by 41.2% of the respondents, general news is a very popular section, with a readership rate of 33.5%. Other frequently-read features, and their percentage rates are: Coming Meetings and Medicine and the Law, 31.5% each; obituaries, 30.01%; editorials, 29.9%; and special features about Texas doctors, 28.4%. Personals, Continuing Education, and The Changing Face of Texas Medicine also showed significant readership rates.

Fifty-eight percent of the respondents feel that the articles in *Texas Medicine* are "good," and 28% think the material falls in the "average" range. Most readers (66%) say they read the journal regularly, with 40% of them spending about 30 minutes in reading each issue.

Sixty-one percent of the readers feel *Texas Medicine* does provide information which is not available in their specialty journals. Most readers who answered this question affirmatively cited news about Texas physicians and events around the state as information they can find only in *Texas Medicine.*

In addition to attempting to determine how readers evaluate the journal in its present form, the survey was designed to see which direction subscribers feel the publication should take.

No strong preference for any one scientific subject emerged, although cardiovascular disease and surgery had a slight edge. Instead, many physicians stated that they prefer to see a wide range of scientific subjects covered, but in simple, easy-to-read form. Respondents asked for summaries, clinicopathologic conferences among other requests.

In the news field, readers were most emphatic in expressing a desire to read more news about Texas medical legislation, TMA policy, federal government regulation, business-economic topics, and social changes affecting the practice of medicine.

A total of 3,146 surveys were received, of which 3,065 have been tallied, for a response rate of 28.91%. Most respondents (40.5%) live in communities of 500,000 or greater population, while the fewest number (7.5%) live in communities of less than 10,000.

Dr. Gibbs amends report

In an article on page 9 of the November issue of *Texas Medicine,* it was reported that pregnancy-related deaths were recorded for 35 women over age 34 in 1970, for a death rate of 2.5 per 10,000.

Dr. C. E. Gibbs, chairman of TMA's Committee on Maternal Health, reports that the decimal point and the numeral in that death rate were transposed, and that the rate should actually be 25.0 per 10,000.

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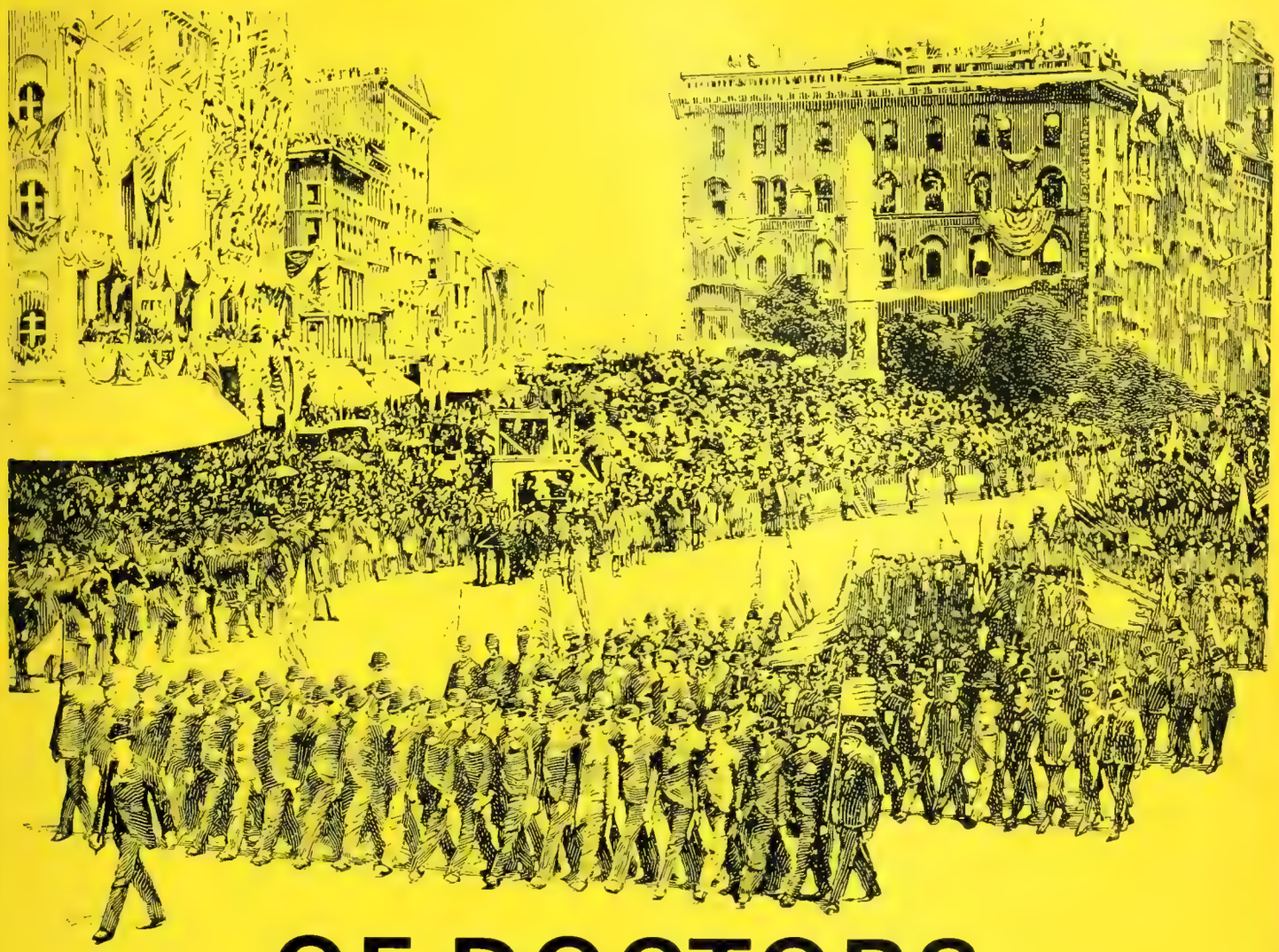

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NEWS

'73 Continuing Education Directory lists over 100 Texas courses

This issue of *Texas Medicine* contains the 1973 edition of the Texas Continuing Education Directory. The Directory is published annually in order to permit physicians to plan ahead for courses they wish to attend during the coming year, and to maintain a single, major source of information on continuing education courses for physicians in Texas.

The 1973 directory contains over 100 course listings, as well as listings of 70 medical meetings which will be held in Texas this year.

The Texas Medical Association's House of Delegates has endorsed "the philosophy of life-long continuing education for physicians," and TMA's Committee on Continuing Education is currently requesting all physicians to voluntarily submit lists of continuing education courses taken during 1972 for inclusion in membership files. TMA policy opposes any kind of legislation which would require continuing education for relicensure.

Reprints of the 1973 Directory will be available from the Regional Medical Program of Texas.

$72 is '73 Medicare deductible

The US Price Commission has ruled that the Medicare inpatient hospital deductible for 1973 may be increased by only $4, in accordance with a Cost of Living Council determination that the deductible represents a price paid by Medicare recipients for hospital services , and is therefore governed by Price Commission regulations.

Normally, under a formula set out in the Medicare law, the Secretary of Health, Education, and Welfare would have raised the deductible by $8 in 1973.

In accordance with the Price Commission ruling, however, Bureau of Health Insurance Director Thomas M. Tierney has announced that the HEW head will set the 1973 deductible at $72. Notice of the increase has been published in the *Federal Register*.

The new deductible applies only if the benefit period begins in 1973. If the patient was hospitalized in 1972, the $68 deductible will remain applicable even if he receives services in 1973, so long as the benefit period has not ended, says Tierney.

If the benefit period begins in 1973, Tierney says the deductible will be $72, the coinsurance amount for a day of inpatient hospital services from the 61st through the 90th day will be $18, for a lifetime reserve day, $36, and for an ECF day from the 21st through the 100th day, $9.

12 special programs planned for 106th Annual Session

Each year, the Texas Medical Association's Annual Session gets bigger. This year in Dallas, there will be 17 scientific sections, and 36 related medical organizations meeting along with the TMA House of Delegates May 3-6.

In addition to regular meetings, there will be several special programs at the 106th Annual Session. They include:

The Conference on School Health, sponsored by the TMA Committee on School Health. The conference will be an all-day session on Friday, devoted to the topic of special education.

The Medical History Dinner in honor of Dr. Milford O. Rouse, past president of American Medical Association and Texas Medical Association. The dinner is scheduled for 6:30 p.m. Thursday, May 3.

The Seminar on Hemophilia, sponsored by the Dallas Chapter of the National Hemophilia Foundation. UT Southwestern Dean Charles C.

Sprague will moderate a panel session Thursday morning on the topic, "The Disciplines in the Treatment of Hemophilia as a Blood-Related Disorder."

The Symposium on Cancer, sponsored by the TMA Committee on Cancer and the American Cancer Society, Texas Division. The Symposium is scheduled from 9 a.m. until 5 p.m. on Friday and the sponsoring groups plan to have four out-of-state guest speakers.

The Symposium on Cardiovascular Diseases, sponsored by the TMA Committee on Cardiovascular Diseases, and the American Heart Association, Texas Affiliate. The symposium will last all day Thursday.

The Conference on Cardiac and Stroke Rehabilitation, sponsored by the American Heart Association, Texas Affiliate; Texas Physical Medicine and Rehabilitation Society; TMA Committee on Rehabilitation; and TMA Committee on Workmen's Compensation and Industrial Health. The conference will begin at 9 a.m. Saturday, May 5, and last until 4 p.m.

Symposium on Alcoholism sponsored by the Texas Commission on Alcoholism and The University of Texas Division of Extension. The symposium will begin at 8 p.m. Thursday.

Symposium on Cerebral Palsy sponsored by the United Cerebral Palsy Association of Texas, Inc., from 9:30 a.m. until 5 p.m. Friday.

Symposium on Maternal Health, sponsored by the TMA Committee on Maternal Health, from 2 until 4 p.m. on Friday.

Symposium on Medicine and Religion, sponsored by the TMA Committee on Medicine and Religion, from 2 until 5 p.m. on Thursday.

Symposium on Trauma, sponsored by the TMA Committee on Disaster Medical Care, from 9 a.m. until 5 p.m. Thursday.

The Texas Academy of Family Physicians Seminar is scheduled from 9 a.m. until 5 p.m. Thursday.

The Symposium on Sports Medicine, sponsored by the Texas Society of Athletic Team Physicians and the TMA Committee on Athletics. A program for physicians, trainers, and coaches is being planned to begin at 8:30 a.m. Friday, running until 5 p.m.

In addition to special meetings, three new sections will meet at this year's Annual Session. The Section on Allergy, being offered for the first time this year, will meet from 9 a.m. until noon on Friday. This year's meeting is being held on a pilot basis.

The Section on Diseases of the Chest and the Section on Nuclear Medicine will also offer programs for the first time in Dallas. Both sections will meet from 10 a.m. until noon and 2 until 4:30 p.m. on Saturday.

Other sections meeting on Saturday include Digestive Diseases, Obstetrics and Gynecology, Ophthalmology, Otolaryngology, Nervous and Mental Diseases, Pathology, and Pediatrics.

Sections meeting on Friday, in addition to Allergy, are Family Practice, Internal Medicine, Ophthalmology, Otolaryngology, Physical Medicine and Rehabilitation, Radiology, Surgery, and Urology.

Senate marijuana report available

The booklet, "Marijuana in Texas," the 1972 report of the Texas Senate Interim Drug Study Committee, is now available from the State Program on Drug Abuse.

The booklet, written by Austin attorney Griffin Smith, Jr., and researched by Alan Holman, delves into both the legal and scientific attitudes surrounding marijuana.

The booklet may be ordered free of charge from The State Program on Drug Abuse, 806 Littlefield Bldg., Austin, Texas 78711.

NEWS

Blues to cover MDs' services for visitors from USSR

Doyle W. Ferguson, MD, vice-president and medical director for Blue Cross/Blue Shield of Texas, has announced that a new program has been developed to provide health care for study visitors from the USSR.

"All physicians' services," says Dr. Ferguson, "both in-patient and out-patient, given these Soviet visitors, will be covered in full by Blue Cross and Blue Shield and their claims should be submitted through the Texas Blue Shield."

Soviet visitors can be identified by their identification cards. They will have a four-digit identification number, preceded by "USSR" and claims will be submitted on regular Texas forms.

The program was developed as part of President Nixon's Agreement for Health Cooperation.

College of Physicians endorses mass emergency care training

The number of sudden deaths due to heart attacks annually in the United States is about 350,000. Many of these deaths could be prevented, says the American College of Physicians, if laypeople were trained in the technique of cardiopulmonary resuscitation.

Too often, when cardiac arrest occurs in the street, restaurant,theater, sports stadium, golf course or home, nothing will be done to sustain the life of the patient until a mobile emergency unit arrives. In order to fill this treatment gap, the American College of Physicians is embarking on a mass educational program on cardiopulmonary resuscitation.

The College, in cooperation with Heart Associations, is urging physicians to join in the national effort. Demonstrations on mannequins and movie films will be used to train the general public in techniques of mouth-to-mouth respiration and closed heart massage.

The College notes that there are risks in training the layperson to perform cardiopulmonary rescuscitation. If the procedure is performed improperly, damage to ribs and bruised organs can occur. In addition, there is the chance that some people will be subjected to resuscitative procedures when they do not have a coronary. The College feels the latter can do no harm, and that the "potential for good greatly outweighs the risks involved."

In some states, legal action against those who perform the procedure improperly is a possibility. The College feels the legal problem emphasizes the need for good instruction. The group has also endorsed universal adoption of laws protecting people who give emergency aid.

Marlin citizens over-zealous in honoring Dr. Smith

The citizens of Marlin, Texas, are apparently so proud of their physician, Dr. Howard Owen Smith, that they credit him with holding more offices and honors than even he has time to hold.

In the program for a dinner held in his honor Oct. 24 in Marlin, it was stated that Dr. Smith had been president of both the Southern Medical Association and the Texas Surgical Society. The list of offices held was reprinted in the November issue of *Texas Medicine*, where it came to Dr. Smith's attention.

"I am a lifetime member of the Southern Medical Association, but have never served as President," says Dr. Smith. "I did have the honor of being First Vice-President of the Texas Surgical Society at one time, and was also on its council of which I was very proud."

Dr. Smith wants to let all his friends know about the mix-up, for as he says, "I would not want to sail under false colors."

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NEWS

Register early for Annual Session

The first advance registration and room reservation form for TMA's 106th Annual Session appears in this issue of *Texas Medicine*.

Headquarters hotels for this year's Dallas Annual Session are the Fairmont, scientific sessions and exhibits; the Statler Hilton, business sessions and meetings of boards, councils and committees; and the Sheraton-Dallas, Auxiliary meetings.

In addition, rooms have been secured at the Holiday Inn Downtown and the Adolphus Hotel.

By taking advantage of advance registration, the physician who wishes to attend Annual Session may have his registration packet waiting when he arrives in Dallas. Rooms go quickly too, so it's a good idea to reserve them now. Tickets to special events at Annual Session may also be ordered now by using the form in this month's issue.

Dr. Clark wins Farber award

Dr. R. Lee Clark, president of The University of Texas M. D. Anderson Hospital and Tumor Institute at Houston, has been chosen the 1972 recipient of the prestigious Sidney Farber Medical Research Award.

The international award is presented annually by The Children's Cancer Research Foundation of Boston for "significant contributions to medical science or to its development, furtherance and support".

It is presented in the name of Dr. Sidney Farber, founder, president, and scientific director of the Foundation. He is now Wolbach Professor Emeritus of Harvard Medical School.

Dr. Clark, recently appointed to President Nixon's three-man Cancer Panel created by the National Cancer Act of 1971, has spent much of his life in the pursuit of the conquest of that disease.

One of Dr. Clark's greatest accomplishments in his long-time effort against cancer was the development of M. D. Anderson Hospital and Tumor Institute as one of the world's leading cancer institutes and as the center for education, research, and patient care in the field in the Southwest.

Some of the advances at the Institute have included the development of the prototype of the cobalt-60 irradiator, the use of the protective environment of a Life Island and laminar flow rooms for control of infection in leukemia patients, the development of the blood cell separator for hemotherapy, the use of the Xenon-133 system for the evaluation of cardiopulmonary function, the development of mammographic and thermographic equipment and techniques for diagnosis of breast cancer, and the installation of the first 25 MEV linear accelerator for clinical research.

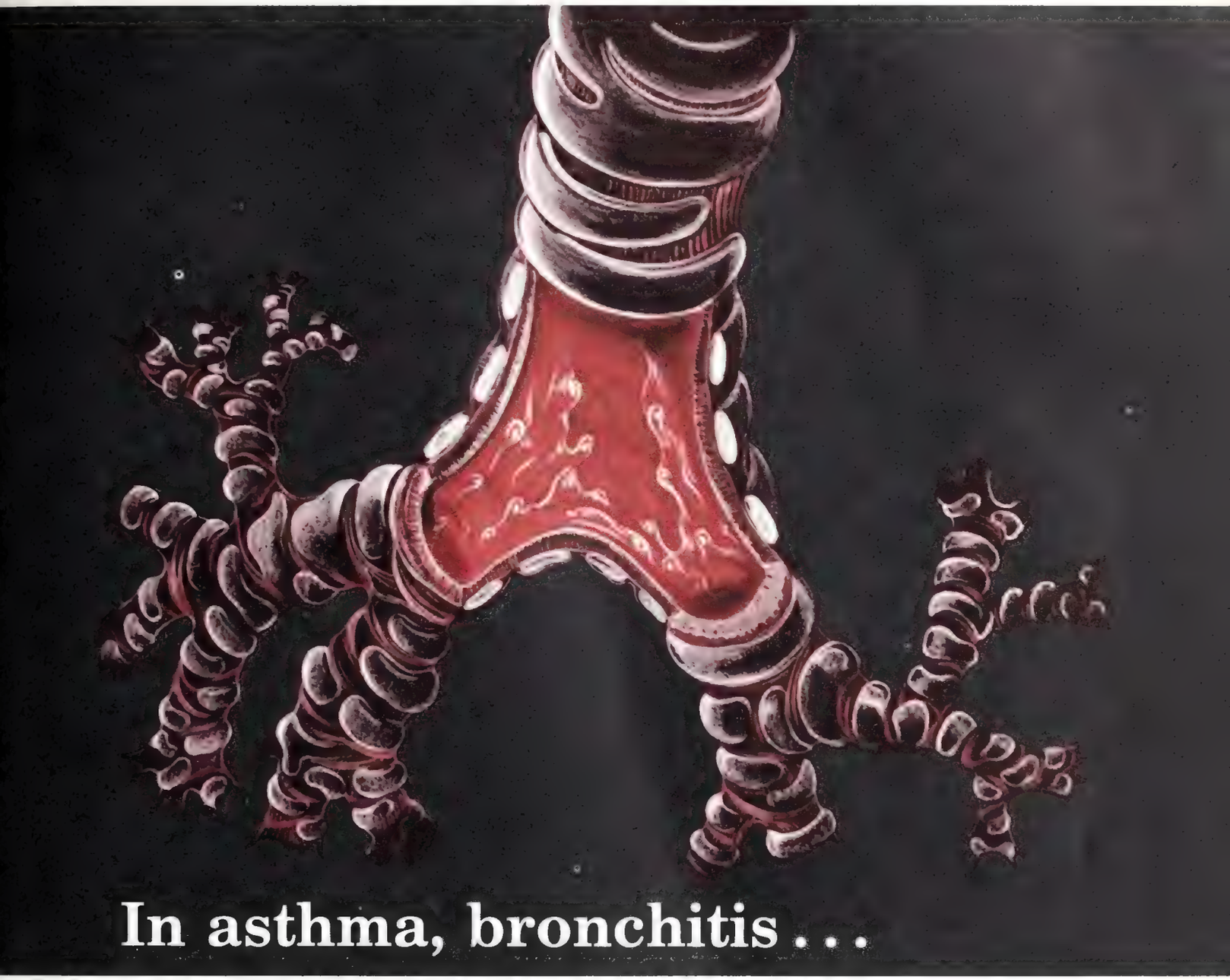
A native of Hereford, Texas, Dr. Clark received his medical degree from the Medical College of Virginia in 1932. He then completed two years of postgraduate study at the University of Paris Graduate School of Medicine.

Dr. Clark also holds a master of science degree in surgery, earned in 1938 from the University of Minnesota Graduate School of Medicine. During that period, he served as a fellow at the Mayo Foundation for Medical Education and Research.

Among his many honors Dr. Clark has received the National Gold Medal of the American Cancer Society and the Distinguished Service Award of the American College of Surgeons.

Dr. Clark is a member of numerous medical and scientific societies and is a national director of the American Cancer Society. He is a board member of the Roswell Park Memorial Institute scientific advisory board and a consultant to the National Cancer Institute.

MOVE-OUT STICKY MUCUS...



In asthma, bronchitis...

"Many physicians use iodides intravenously when they suspect that the main reason for airway obstruction is sticky mucus but oral iodides are more likely to exert an expectorant action."[1]

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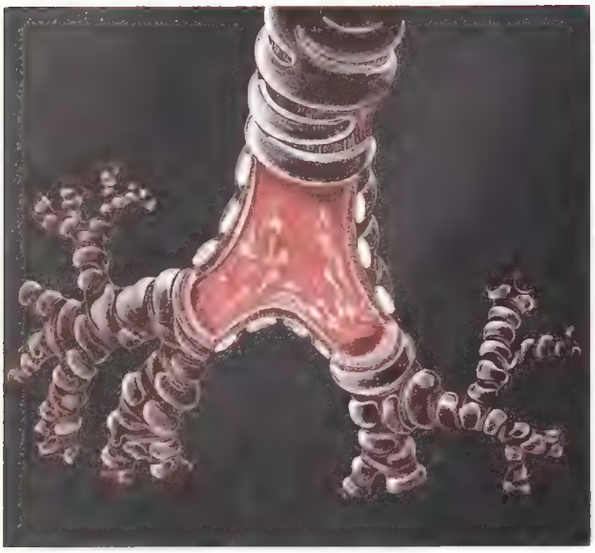

"The productive cough serves the necessary purpose of removing excess mucus from the bronchial tree."[3]

"... there is clear evidence that the loosening of the bronchial mucus blanket must begin from within the underlying mucus glands where it is anchored and not from the surface. Complications of iodides are too occasional to avoid the use of this valuable medication."[3]

Rx Information:

INDICATIONS: The primary indication for Iodo-Niacin is in any clinical condition where iodide therapy is desired. All of the usual indications for the iodides apply to Iodo-Niacin and include:

RESPIRATORY DISEASE: The use of Iodo-Niacin is indicated whenever an expectorant action is desired to increase the flow of bronchial secretion and thin out tenacious mucus as seen in bronchial asthma, and other chronic pulmonary disease. Iodo-Niacin has also proven of value in sinusitis, bronchitis, bronchiectasis, and other chronic and acute respiratory diseases where the expectorant action of iodide is desired.

THYROID DISEASE: Iodo-Niacin is indicated in any thyroid disorder due to iodine deficiency, such as endemic goiter or hypoplastic goiter, and where hypothyroidism is secondary to iodine deficiency. Iodo-Niacin will suppress mild hyperthyroidism completely, and partially suppress more severe hyperthyroid states. Iodo-Niacin is also of value in suppressing the symptoms of hyperthyroidism and decreasing the size and vascularity of the thyroid gland prior to thyroidectomy.

ARTERIOSCLEROSIS: Iodides have been reported as relieving some of the symptoms associated with arteriosclerosis. The mechanism of action is unknown, but the effects are documented.

OPHTHALMOLOGY: Iodo-Niacin has been reported to be of value in retinal and vitreous hemorrhages. The mechanism of action is unknown, but absorption of the hemorrhagic areas has been observed following use of this drug. It is also reported to be of value in reducing or removing vitreous floaters.

SIDE EFFECTS: Serious adverse side effects from the use of Iodo-Niacin are rare. Mild symptoms of iodism such as metallic taste, skin rash, mucous membrane ulceration, salivary gland swelling, and gastric distress have occurred occasionally. These generally subside promptly when the drug is discontinued. Pulmonary tuberculosis is considered a contraindication to the use of iodides by some authorities, and the drug should be used with caution in such cases. Rare cases of goiter with hypothyroidism have been reported in adults who had taken iodides over a prolonged period of time, and in newborn infants whose mothers had taken iodides for prolonged periods. The signs and symptoms regressed spontaneously after iodides were discontinued. The causal relationship and exact mechanism of action of iodides in this phenomenon are unknown. Appropriate precautions should be followed in pregnancy and in individuals receiving Iodo-Niacin for prolonged periods.

DOSAGE: The oral dose for adults is two tablets after meals taken with a glass of water. For children over eight years, one tablet after meals with water. The dosage should be individualized according to the needs of the patient on long-term therapy.

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References: 1. Itkin, I. H., Am. Fam. Phys. 4:83, 1971. 2. Feinberg, S. M., Consultant Sept., 1971, pg. 32. 3. Bookman, R., Ann. Allerg. 29:367, 1971.

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759 pass state nursing exams

A total of 759 candidates successfully completed the State Board Test Pool Examination for professional nurses given Oct. 10 and 11 in Austin.

The Board of Nurse Examiners says that 131 of the newly-registered nurses are graduates of schools outside the United States who are registered in their home country. Eleven are graduates of schools of nursing in other states who took the examination for licensure in Texas.

The next examination will be held March 27 and 28, 1973 at the Municipal Auditorium in Austin. One thousand three hundred candidates are expected to write the exam.

Scholarship honors Dr. Stembridge

A group of Dallas pathologists has established a scholarship fund in honor of the chairman of The University of Texas Southwestern Medical School's Department of Pathology, Dr. Vernie A. Stembridge.

The fund will make $1,000 available each year to a senior medical student at UTSWMS. The recipient will be selected by members of the full-time faculty of the Department of Pathology on the basis of outstanding scholarship and achievement in pathology.

The first $1,000 check for the Stembridge Scholarship award has been presented by the founders of the fund "as a reflection of our esteem for Dr. Stembridge."

The fund has been and will be contributed to by local pathologists, other colleagues, and by former pathology residents under Dr. Stembridge, the founders said.

Dr. Stembridge has been with UTSWMS 13 years, the past five of which he has served as chairman of the Department of Pathology. He has been director of the Tumor Clinic at Parkland Memorial Hospital in Dallas for the past 12 years.

Dr. Hinds wins Maislen award

Edward C. Hinds, DDS, MD, professor and chairman of the Department of Surgery of The University of Texas Dental Branch at Houston, recently received the Arnold K. Maislen Memorial Award for outstanding contributions to the science and specialty of oral surgery.

The award, presented Dec. 4 at the annual dinner of the Bellevue Oral Surgery Alumni, has been given by New York University since 1956 in memory of Dr. Maislen, former chief resident in oral surgery at Bellevue Hospital. He died from Hodgkins disease in 1954.

Dr. Hinds has produced six movies and has published some 60 written works, including chapters in Kruger's *Textbook of Oral Surgery*, the single text most widely used in dental schools.

NEWS

UNIT VALUES FOR TMA MEMBERS RETIREMENT PLAN AND TRUST

(As a service to participants in the TMA Members Retirement Plan and to physicians interested in enrolling in the program, comparative values for investments are listed. Figures shown are the latest available at press deadline and are for comparison purposes only. Most daily newspapers list up-to-the-minute values on mutual funds.)

Investment media	Original price 9-30-68	Net asset value per share 11-31-72	Net asset value per share 11-31-72*
Mercantile National Bank Stock Fund	$10.25	$13.15	$13.15
Loomis-Sayles Capital Development Fund	14.20	13.91	16.11
T. Rowe Price Growth Stock Fund	25.93	31.98	35.66
Loomis-Sayles Mutual Fund	16.82	15.48	19.64
Stein Roe & Farnham Balanced Fund	23.34	24.20	31.05
Mercantile Bank Fixed Income Fund	10.00	11.67	11.67

*Adjusted to include dividends and distributions since 9-30-68.

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Warnings: Safety in pregnancy not established. Do not use for group A beta-hemolytic streptococcal infections, as sequelae (rheumatic fever, glomerulonephritis) are not prevented. Deaths reported from hypersensitivity reactions, agranulocytosis, aplastic anemia and other blood dyscrasias. Sore throat, fever, pallor, purpura or jaundice may be early indications of serious blood disorders. CBC and urinalysis with careful microscopic examination should be performed frequently.

Precautions: Use cautiously in patients with impaired renal or hepatic function, severe allergy or bronchial asthma. Hemolysis, frequently dose related, may occur in glucose-6-phosphate dehydrogenase-deficient patients. Maintain adequate fluid intake to prevent crystalluria and stone formation.

Adverse Reactions: *Blood dyscrasias:* Agranulocytosis, aplastic anemia, thrombocytopenia, leukopenia, hemolytic anemia, purpura, hypoprothrombinemia and methemoglobinemia; *Allergic reactions:* Erythema multiforme (Stevens-Johnson syndrome), generalized skin eruptions, epidermal necrolysis, urticaria, serum sickness, pruritus, exfoliative dermatitis, anaphylactoid reactions, periorbital edema, conjunctival and scleral injection, photosensitization, arthralgia and allergic myocarditis; *Gastrointestinal reactions:* Nausea, emesis, abdominal pains, hepatitis, diarrhea, anorexia, pancreatitis and stomatitis; *C.N.S. reactions:* Headache, peripheral neuritis, mental depression, convulsions, ataxia, hallucinations, tinnitus, vertigo and insomnia; *Miscellaneous reactions:* Drug fever, chills and toxic nephrosis with oliguria and anuria. Periarteritis nodosa and L.E. phenomenon have occurred. Due to certain chemical similarities with some goitrogens, diuretics (acetazolamide, thiazides) and oral hypoglycemic agents, sulfonamides have caused rare instances of goiter production, diuresis and hypoglycemia as well as thyroid malignancies in rats following long-term administration. Cross-sensitivity with these agents may exist.

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*Koch-Weser, J., *et al.: Arch. Intern. Med., 128*:399, 1971.

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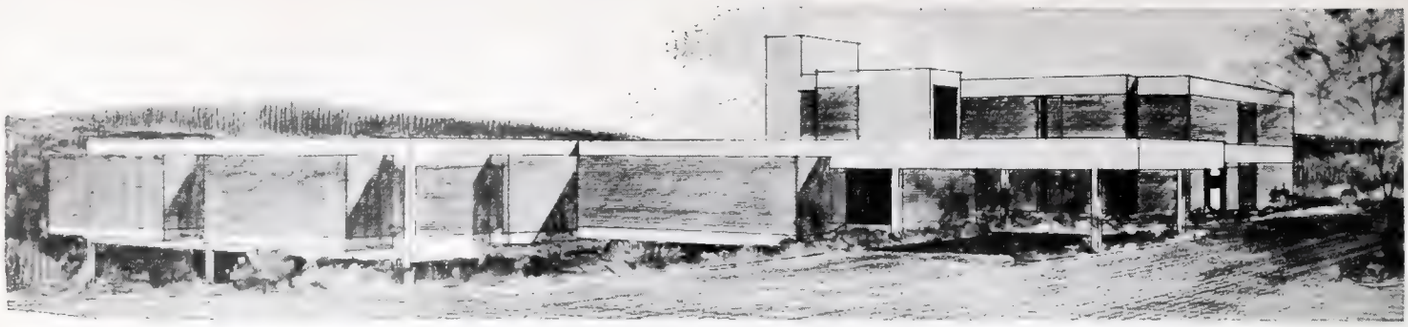

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Psychiatry
William M. Lukash, M.D., Bethesda, Md.
Gastroenterology
Richard F. Mattingly, M.D., Milwaukee, Wisc.
Gynecology
A. J. McAdams, M.D., Pittsburgh, Pa.
Colon and Rectal Surgery
Alden Miller, M.D., Los Angeles, Calif.
Otolaryngology
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Radiology
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Surgery
W. A. J. van Heuven, M.D., Albany, N.Y.
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George J. L. Wulff, Jr., M.D., St. Louis, Mo.
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Surgery

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SMOKING AND HEALTH

National Education Week on Smoking is January 7-13. The Texas Medical Association participates in the Texas Interagency Council on Smoking and Health with the Texas Division, American Cancer Society; Texas Heart Association; Texas Dental Association; Texas Education Agency; State Department of Health; Texas Congress of Parents and Teachers; Texas Tuberculosis and Respiratory Disease Association; Texas Nurses Association; and Texas Association of Respiratory Therapists.

The Interagency Council coordinates educational efforts by member agencies to inform the public, medical and allied professions and school children about the harmful effects of smoking.

We urge you to cut out and post the sign on page 25 in your office

For further information, write Texas Interagency Council on Smoking and Health,
1100 West 49th Street, Austin, Texas 78756.

TEXAS INTERAGENCY COUNCIL ON SMOKING AND HEALTH

Information for authors

Material for *Texas Medicine* may be sent to the Managing Editor, 1801 North Lamar Blvd., Austin 78701. It must be offered solely to this journal. Each paper is reviewed by a consultant specialist and an editorial board, and is accepted or rejected on the basis of its individual merit and the availability of other material.

Manuscripts should be typed double-spaced with ample margins on firm paper. Carbons are unacceptable, but the author should keep a copy.

The *title* should include the words most suitable for indexing the article in "Index Medicus," should stress the main point, and should be brief. Subtitles should not be connected grammatically with the main title.

The *author's names* and degrees should follow the title, and their mailing addresses should be listed at the end of the article.

The *text* should be narrative with complete sentences, *few abbreviations*, and logical subheading. For *spelling and usage* the editors follow "Dorland's Illustrated Medical Dictionary," 24th edition, and "Webster's Third New International Dictionary, Unabridged." *Quotations* must give credit to both author and source. A concise *introductory summary* is required.

Reference lists should contain in this order (1) author's last name, initials, (2) title of article or book, (3) name of journal, (4) volume and inclusive page numbers, written 33:156-160, (5) year. For books, the title should be followed by place of publication, name of publisher, and year.

Illustrations should be black and white drawings or positive photographs, with neat, uniform, fairly large lettering. A label pasted to the back of each illustration should indicate its number, top, author's name, and title of article in brief. *Legends* should be in complete sentences, numbered, and typed on a separate sheet. *Color illustrations* are authorized if they are of special value.

Tables should be typed on separate sheets. Column headings should show points of similarity; side headings, points of difference.

Permission should be obtained from the publishers and the authors for any previously published material (extensive textual matter, illustrations, tables) used. Short verbatim quotations in the text may be used without permission, but should be quoted exactly with the source credited in the bibliography. Copies of permission letters should be submitted with the manuscript.

All material is subject to *editing*, but authors receive typescripts to check before publication. Prompt return of typescripts to *Texas Medicine* office avoids delay in publication. After the article is sent to the printer, only minimal revision may be made.

Reprints are available directly from the printer at an established schedule of costs. Authors automatically receive order blanks when their articles are published.

Editorials should be prepared in the same general manner, and should be written in clear, concise language. They should be 300-500 words in length (about two to three pages typed with double spacing.)

Contributions to the news section should be sent to the Editorial Offices, 1801 N. Lamar Blvd., Austin 78701, by the 5th of the month preceding the month of publication.

PUBLICATION INFORMATION

Texas Medicine is published monthly by the Texas Medical Association.

Second Class Postage paid at Austin, Texas, with additional entry at Fort Worth, Texas, under act of March 3, 1879.

Contributions, previously unpublished, are welcomed for review. News and other items should be sent to the Editorial Offices by the 5th of the month preceding the month of publication. All contributions are sent at the owner's risk.

Scientific Articles are reviewed by technical and specialist consultants and are selected for publication in Texas Medicine by the Scientific Publication Committee, which is appointed by the Board of Publication. Editorials and other articles are subject to review by officers of the Texas Medical Association, appropriate expert and technical consultants, and representatives of county medical societies when in their purview.

Scientific Publication Advisory Committee: John P. Vineyard, MD, chairman; Joseph M. Abell, Jr., MD; Robert Askew, MD; Ronald P. Boren, MD; Ernest C. Butler, MD; Stanton W. Glazener, MD; B. F. Johnson, MD; Joseph Lancaster, MD; John P. Schneider, MD. All are practicing physicians in Austin.

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Indications: Acute gouty arthritis, rheumatoid arthritis, rheumatoid spondylitis

Contraindications: Children 14 years or less; senile patients; history or symptoms of G.I. inflammation or ulceration including severe, recurrent or persistent dyspepsia; history or presence of drug allergy; blood dyscrasias; renal, hepatic or cardiac dysfunction; hypertension; thyroid disease; systemic edema; stomatitis and salivary gland enlargement due to the drug; polymyalgia rheumatica and temporal arteritis; patients receiving other potent chemotherapeutic agents, or long-term anticoagulant therapy

Warnings: Age, weight, dosage, duration of therapy, existence of concomitant diseases, and concurrent potent chemotherapy affect incidence of toxic reactions. Carefully instruct and observe the individual patient, especially the aging (forty years and over) who have increased susceptibility to the toxicity of the drug. Use lowest effective dosage. Weigh initially unpredictable benefits against potential risk of severe, even fatal, reactions. The disease condition itself is unaltered by the drug. Use with caution in first trimester of pregnancy and in nursing mothers. Drug may appear in cord blood and breast milk. Serious, even fatal, blood dyscrasias, including aplastic anemia, may occur suddenly despite regular hemograms, and may become manifest days or weeks after cessation of drug. Any significant change in total white count, relative decrease in granulocytes, appearance of immature forms, or fall in hematocrit should signal immediate cessation of therapy and complete hematologic investigation. Unexplained bleeding involving CNS, adrenals, and G.I. tract has occurred. The drug may potentiate action of insulin, sulfonylurea, and sulfonamide-type agents. Carefully observe patients taking these agents. Nontoxic and toxic goiters and myxedema have been reported (the drug reduces iodine uptake by the thyroid). Blurred vision can be a significant toxic symptom worthy of a complete ophthalmological examination. Swelling of ankles or face in patients under sixty may be prevented by reducing dosage. If edema occurs in patients over sixty, discontinue drug.

Precautions: The following should be accomplished at regular intervals: Careful detailed history for disease being treated and detection of earliest signs of adverse reactions; complete physical examination including check of patient's weight; complete weekly (especially for the aging) or an every two week blood check; pertinent laboratory studies. Caution patients about participating in activity requiring alertness and coordination, as driving a car, etc. Cases of leukemia have been reported in patients with a history of short- and long-term therapy. The majority of these patients were over forty. Remember that arthritic-type pains can be the presenting symptom of leukemia.

Adverse Reactions: This is a potent drug; its misuse can lead to serious results. Review detailed information before beginning therapy. Ulcerative esophagitis, acute and reactivated gastric and duodenal ulcer with perforation and hemorrhage, ulceration and perforation of large bowel, occult G.I. bleeding with anemia, gastritis, epigastric pain, hematemesis, dyspepsia, nausea, vomiting and diarrhea, abdominal distention, agranulocytosis, aplastic anemia, hemolytic anemia, anemia due to blood loss including occult G.I. bleeding, thrombocytopenia, pancytopenia, leukemia, leukopenia, bone marrow depression, sodium and chloride retention, water retention and edema, plasma dilution, respiratory alkalosis, metabolic acidosis, fatal and nonfatal hepatitis (cholestasis may or may not be prominent), petechiae, purpura without thrombocytopenia, toxic pruritus, erythema nodosum, erythema multiforme, Stevens-Johnson syndrome, Lyell's syndrome (toxic necrotizing epidermolysis), exfoliative dermatitis, serum sickness, hypersensitivity angiitis (polyarteritis), anaphylactic shock, urticaria, arthralgia, fever, rashes (all allergic reactions require prompt and permanent withdrawal of the drug), proteinuria, hematuria, oliguria, anuria, renal failure with azotemia, glomerulonephritis, acute tubular necrosis, nephrotic syndrome, bilateral renal cortical necrosis, renal stones, ureteral obstruction with uric acid crystals due to uricosuric action of drug, impaired renal function, cardiac decompensation, hypertension, pericarditis, diffuse interstitial myocarditis with muscle necrosis, perivascular granulomata, aggravation of temporal arteritis in patients with polymyalgia rheumatica, optic neuritis, blurred vision, retinal hemorrhage, toxic amblyopia, retinal detachment, hearing loss, hyperglycemia, thyroid hyperplasia, toxic goiter, association of hyperthyroidism and hypothyroidism (causal relationship not established), agitation, confusional states, lethargy; CNS reactions associated with overdosage, including convulsions, euphoria, psychosis, depression, headaches, hallucinations, giddiness, vertigo, coma, hyperventilation, insomnia; ulcerative stomatitis, salivary gland enlargement. (B)98-146-070-G

Serious side effects do occur. Select patients carefully (particularly the elderly) and follow them closely in line with the drug's precautions, warnings, contraindications and adverse reactions.

For complete details, including dosage, please see full prescribing information.

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TEXAS SOCIETY OF PATHOLOGISTS

The University of Texas Medical Branch and Flagship Hotel in Galveston will host the Jan. 26-28 meeting of the Texas Society of Pathologists. Features of the scientific program are a symposium on education, which will include discussion of education of medical students, medical technologists, and pathology residents; and a symposium on practical aspects of renal pathology, with emphasis on the practical aspects of processing renal biopsies, establishing renal pathology service in private hospitals, and evaluation of the results.

Contact: Dr. F. Lamont Jennings, Professor and Chairman, Department of Pathology, UT Medical Branch, Galveston 77550, program chairman.

TEXAS ASSOCIATION OF OBSTETRICIANS AND GYNECOLOGISTS

The annual meeting of the Texas Association of Obstetricians and Gynecologists will be held in Austin, March 16-17. Drs. Luigi Mastroianni, Jr., professor and chairman, department of obstetrics and gynecology, University of Pennsylvania School of Medicine, Philadelphia; and S. Jan Behrman, director, Center for Research in Reproductive Biology, University of Michigan Medical Center, Ann Arbor, will be featured guest speakers.

Contact: Dr. Dennis M. Voulgaris, 2100 N. Fulton St., Wharton 77488, secretary-treasurer.

TEXAS RADIOLOGICAL SOCIETY

Radiologists in Texas and surrounding states are invited to attend the 60th annual meeting of the Texas Radiological Society, March 1-3, at the Green Oaks Inn, Fort Worth. Dr. Milton Elkin, professor and chairman, department of radiology, Albert Einstein College of Medicine, New York, will discuss the role of radiological studies in the diagnosis of medical diseases of the kidney, and radiological considerations of obstructive nephropathy. "The Place of Radiation in the Management of Breast Cancer" and "Studies on the Pathogenesis of Hodgkin's Disease" will be presented by Dr. Samuel Hellman, chairman, department of radiation therapy, Harvard Medical School, Boston. Other out-of-state guest speakers are Dr. E. James Potchen, chief of nuclear medicine, Mallinckrodt Institute, St. Louis; and Dr. Frank Zboralske, chief of diagnostic radiology, Stanford University School of Medicine, Palo Alto, Calif. Dr. Zboralske will discuss clinical and roentgenographic features of hiatal hernia in infants and children.

Contact: Dr. Herman C. Sehested, 800 Fifth Ave., Fort Worth 76104, secretary-treasurer.

COMING MEETINGS

CURRENT MEETINGS IN TEXAS

AMERICAN MEDICAL ASSOCIATION, in cooperation with the Texas Medical Association and other organizations, will present the 26th National Conference on Rural Health, March 29-30, at the Statler-Hilton Hotel in Dallas. Themed "Rural Health—Innovation to Implementation," the purpose of the Conference is to explore new needs and report on new developments in rural development and rural health, consumer health education, health science schools and rural health manpower, national health service corps, rural health systems and the young physician, community organization for rural health services, the health team in rural health development, research in rural health services, and the future and rural health. Contact: Dr. Bond L. Bible (PhD), Department of Rural Health, Division of Medical Practice, AMA, 535 N. Dearborn St., Chicago 60610.

INTERNATIONAL MEDICAL ASSEMBLY OF SOUTHWEST TEXAS, meeting in San Antonio Feb. 15-16, will feature distinguished guest speakers in the specialties of family practice, internal medicine, obstetrics-gynecology, orthopedic surgery, otolaryngology, pediatrics, plastic surgery, psychiatry, radiology, surgery, thoracic surgery, and urology. The Assembly's 37th annual meeting will be staged at the Gunter Hotel, and will be followed by a convention trip to Merida and Cozumel, Yucatan. Departure date for the 7th annual extension trip is Feb. 17. Contact: S. E. Cockrell, 202 W. French Pl., San Antonio 78212, executive director.

TEXAS ACADEMY OF FAMILY PHYSICIANS, VALLEY CHAPTER, announces the Sixth Annual Medical Surgical Conference of the Rio Grande Valley, scheduled for March 29-31 in McAllen. Participants in the Conference will be Drs. Joseph Godfrey, orthopedic surgeon, Buffalo, NY; Milton Helpern, chief medical examiner for the city of New York; Denton Cooley, Houston; Orville J. Stone, department of dermatology, UT Medical Branch, Galveston; Sidney Kaye (PhD), professor of toxi-

For other courses and symposiums, see Continuing Education Directory, pp. D1-D20 (green section).

cology, legal medicine and toxicology, University of Puerto Rico School of Medicine, San Juan; Chauncy D. Leake (PhD), University of California School of Medicine, San Francisco; Paul Fink, professor and director of education and training, Hahnemann Medical College, Philadelphia; Joseph Painter, Houston; Jim L. Story, professor, division of neurosurgery, UT Health Science Center at San Antonio; and Carmault B. Jackson, San Antonio. Contact: Dr. Mario E. Ramirez, Box 188, Roma 78584, general chairman.

CURRENT REGIONAL MEETINGS

NEW ORLEANS GRADUATE MEDICAL ASSEMBLY has scheduled its annual meeting for March 19-22 in New Orleans. Dr. William M. Lukash, White House physician and head of the gastroenterology clinic, US Naval Hospital, Bethesda, Md., will be one of the many distinguished speakers from throughout the country participating in the 36th annual meeting. Dr. Lukash will present a report on his visit to China with President Nixon entitled, "Observations of Chinese Medicine." Medical motion pictures, a clinicopathologic conference, and technical exhibits are included in the program format. Contact: Frances W. Shumaker, 1430 Tulane Ave., New Orleans 70112, executive secretary.

SOCIETY OF NUCLEAR MEDICINE, SOUTHWESTERN CHAPTER, will present simultaneous teaching sessions and a scientific program, March 16-18, in New Orleans. The 18th annual meeting will be held at the Fairmont Roosevelt Hotel. Teaching sessions will cover the subject of nuclear medicine, and are designed to help those preparing to take the American Board of Nuclear Medicine examinations in April, 1973. A lecture syllabus based on the previous course will be available. The scientific program will consist of paper presentations, scientific exhibits, and a technologists' workshop and program. Contact: Dr. Ted Bloch, Suite 306, Medical Arts Bldg., 2439 Prytania St., New Orleans 70115, program chairman.

CURRENT NATIONAL MEETINGS

AMERICAN ACADEMY OF FORENSIC SCIENCES will feature 60 scientific and medico-legal programs during its 25th annual meeting at the Las Vegas Hilton Hotel in Las Vegas, Feb. 20-23. Subjects of general interest to be discussed are assaultive juveniles, computer-related crimes, the effects of methadone on driving ability, case histories of two skyjackers, medico-sociological aspects of rape, the criminal confession, unexpected natural death in children, and child abuse and neglect by drug-addicted mothers. The Academy's general sessions will include a review of the forensic sciences over the past 25 years and a review of suicide —a new system for investigating suicide deaths, recent trends in suicides and violent deaths, and a computer system for the control of out-patient health care. Contact: Harlan Kimball, PO Box 302, New Hartford, Conn. 06057, executive director.

AMERICAN ACADEMY OF ORTHOPAEDIC SURGEONS' 40th annual meeting will be held Feb. 1-6 in Las Vegas. Every phase of disorders of the musculoskeletal system will be considered in instructional courses, special symposia, and scientific papers. Subjects of instructional courses include arthritis, bone physiology, cerebral palsy, fractures, biomechanics, children's diseases, and spine, knee, foot, and hand surgery. Symposia will cover chemonucleolysis, total hip replacement, antibiotics, and community-organized emergency medical services. Contact: Dr. Charles V. Heck, 430 N. Michigan Ave., Chicago 60611, executive director.

AMERICAN CANCER SOCIETY's National Conference on Urologic Cancer will be staged at the Shoreham Hotel in Washington, DC, March 29-31. The objective of the Conference is to summarize the present knowledge in the field of urologic neoplasms for an interdisciplinary audience including the general practitioner, internist, surgeon, pediatrician, radiologist, and urologist. Scheduled are sessions on cancer of the kidney, bladder, prostate, testis, adrenal urethra, and penis, and pediatric urologic cancer. Contact: Dr. Sidney L. Arje, 219 E. 42nd St., New York 10017.

AMERICAN COLLEGE OF CARDIOLOGY's annual scientific session in San Francisco, Feb. 14-18, will feature special symposia, a program on controversies in cardiology, reports of original investigations, luncheon panels, master teacher seminars, fireside conferences, and clinics and demonstrations at San Francisco's leading medical centers and hospitals. Progress in heart disease—1973, advances in coronary heart disease, the effects of surgical treatment on the natural history of cardiac disease, echocardiography—state of the art, electrophysiological correlates of clinical arrhythmias, advances in cardiac surgery, and advances in pediatric cardiology are topics of symposia. Contact: William D. Nelligan, 9650 Rockville Pike, Bethesda, Md. 20014, executive director.

AMERICAN MEDICAL ASSOCIATION's Council on Medical Education announces the 69th Annual Congress on Medical Education at the Palmer House in Chicago, Feb. 9-11. The Congress is being presented in collaboration with the Association for Hospital Medical Education, Association of Schools of Allied Health Professions, Federation of State Medical Boards of the United States, and the Student American Medical Association. The physician and medical discipline, changes in medical education—problems and promises, the physician's assistant, the foreign medical graduate and his special problems, integrating basic sciences into graduate education programs, delineating hospital privileges for the medical staff—implications for residency training, curriculum—the state of the art of the core concept in allied health, and the roles of allied health training centers are topics to be studied during the Congress. Contact: Secretary, Council on Medical Education, AMA, 535 N. Dearborn St., Chicago 60610.

AMERICAN SOCIETY OF CLINICAL PATHOLOGISTS and COLLEGE OF AMERICAN PATHOLOGISTS will present their joint spring meeting at the Sheraton Hotel in Honolulu, Feb. 9-16. ASCP's Commission on Continuing Education has planned workshops, applied seminars, and roundtable breakfast discussions. Presentations during the scientific program will include "Cytomegalovirus Hepatitis in Adults," "Serum Immunoglobin Patterns in Older Individuals," "Fibrin-Fibrinogen Degradation Products in Acute Myocardial Infarction," "Design and Performance of an Automated Leukocyte Classifier," "Developmental Proficiency Testing in Cytopathology," "Assessment of Ovulation by Hormone Assays," "Urinary and Serum Analysis in Disorders of Metabolism," and "Primary Chondrosarcoma of the Temporal Bone." Contact: Dr. George F. Stevenson, 2100 W. Harrison, Chicago 60612, executive officer.

AMERICAN SOCIETY FOR CLINICAL PHARMACOLOGY AND THERAPEUTICS' 74th annual meeting will be held at the Monteleone Hotel in New Orleans, March 22-23. "Clinical Toxicology" and "New Developments in Cardiovascular Drug Therapy" are topics to be studied in symposia. In concurrent sessions, cardiovascular drugs, drug metabolism, chemotherapy, clinical trials, CNS active drugs, endocrine —anti-inflammatory drugs, pharmacokinetics, and clinical toxicology will be discussed. Contact: Elaine Galasso, 1718 Gallagher Rd., Norristown, Pa. 19401, executive secretary.

AMERICAN SOCIETY OF CONTEMPORARY MEDICINE AND SURGERY has themed its annual meeting, "Continuing Education for Excellence in Medicine and Surgery." Contemporary surgical procedures in diseases of the cardiovascular system, proctology, gynecology, urology, otolaryngology, orthopedics, gastroenterology, reconstruction, and esthetic surgery will be emphasized during the meeting, scheduled for Feb. 25 to March 3 in Miami Beach. Presentation topics are "Management of Cystitis," "Depepsin in Peptic Ulcer," "Chemotherapy and Chemosurgery in the Prevention and Treatment of Skin Cancer," "New Methods of Abortion," "Laser Therapy," "Thermography," and "Hand Prosthesis." Contact: Virginia Kendall, 30 N. Michigan Ave., Rm. 1629, Chicago 60602.

AMERICAN SOCIETY OF CONTEMPORARY OPHTHALMOLOGY will meet at the Fontainbleau Hotel in Miami Beach, Feb. 25-March 3. Topics related to reconstruction surgery, diseases of the cornea, strabismus, cataract, glaucoma, and soft lens will be presented. Recent advances in retinal detachment will be covered in a special symposium, and continuing education courses will cover "Microsurgery of the Cornea" and "Microsurgery of the Anterior Segment." Contact: American Society for Contemporary Ophthalmology, Rm. 1629, 30 N. Michigan Ave., Chicago 60602.

MORE COMING MEETINGS

■ Denotes Texas meetings.

ALSO IN FEBRUARY

AMERICAN ACADEMY OF ALLERGY, Washington, DC, Feb. 10-14, 1973. James O. Kelley, 225 E. Michigan St., Milwaukee 53202, Exec. Sec.

AMERICAN ASSOCIATION OF PATHOLOGISTS AND BACTERIOLOGISTS, Washington, DC, Feb. 24-27, 1973. Dr. A. J. French, Dept. of Pathology, University of Michigan Medical School, Ann Arbor 48104, Sec.

AMERICAN COLLEGE OF EMERGENCY PHYSICIANS, Las Vegas, February 1973. Arthur E. Auer, 241 E. Saginaw St., East Lansing, Mich. 48823, Exec. Dir.

AMERICAN COLLEGE OF HOSPITAL ADMINISTRATORS, 16th Congress on Administration, Chicago, Feb. 22-24, 1973. Richard J. Stull, 840 N. Lake Shore Dr., Chicago 60611, Exec. V.-Pres.

■ AMERICAN COLLEGE OF SURGEONS, SOUTH TEXAS CHAPTER, Corpus Christi, Feb. 1-3, 1973. Dr. Peter B. Fisher, 615 Medical Towers, Houston 77025, Sec.

AMERICAN HOSPITAL ASSOCIATION, Washington, DC, Feb. 5-8, 1973. John Alexander McMahon, 840 N. Lake Shore Dr., Chicago 60611, Pres.

■ FIFTH DISTRICT MEDICAL SOCIETY, San Antonio, Feb. 16, 1973. S. E. Cockrell, Jr., 202 W. French Pl., San Antonio 78212, Exec. Officer.

■ KIMBALL SCIENCE SYMPOSIUM, Dallas, Feb. 17, 1973. Ann Albach, Kimball Science Club, 3606 S. Westmoreland, Dallas 75233, Coord.

■ TEXAS PUBLIC HEALTH ASSOCIATION, Dallas, Feb. 18, 1973. Robert E. Monroe, 1117 W. 42nd St., Austin 78756, Exec. Sec.-Treas.

ALSO IN MARCH

AMERICAN MEDICAL ASSOCIATION, Quality of Life Congress, Chicago, March 7-10; AMA-AMPAC Public Affairs Workshop, Washington, DC, March 10-11; National Medicolegal Symposium, Las Vegas, March 22-25, 1973. AMA, 535 N. Dearborn St., Chicago 60610.

■ AMERICAN MEDICAL ASSOCIATION/TEXAS MEDICAL ASSOCIATION, Speakers and Leadership Training Seminar, Austin, March 10-11, 1973. Jon R. Hornaday, TMA, 1801 N. Lamar Blvd., Austin 78701, Dir. of Pub. Rel.

AMERICAN SOCIETY OF ABDOMINAL SURGEONS, Hawaii, March 16-25, 1973. Dr. Blaise F. Alfano, 675 Main St., Melrose Mass. 02176, Exec. Sec.

AMERICAN SOCIETY FOR AESTHETIC PLASTIC SURGERY, INC., Newport Beach, Calif., March 11-15, 1973. Dr. Simon Fredricks, 1103 Medical Towers, Houston 77025, Prog. Chrmn.

ASSOCIATION FOR CHILDREN WITH LEARNING DISABILITIES, Detroit, March 14-17, 1973. Charles B. Slack, 6900 Grove Rd., Thorofare, NJ 08086.

■ DALLAS SOUTHERN CLINICAL SOCIETY, Dallas, March 12-14, 1973. Millard J. Heath, 433 Medical Arts Bldg., Dallas 75201, Exec. Officer.

■ NINTH DISTRICT MEDICAL SOCIETY, Navasota, March 15, 1973. Dr. Mac M. Diamond, 3332 Plainview, Pasadena 77504, Sec.

OKLAHOMA CITY CLINICAL SOCIETY, Oklahoma City, March 29-31, 1973. Alma O'Donnell, 601 Northwest Expressway, Oklahoma City 73118, Exec. Sec.

TEXAS UROLOGICAL SOCIETY, Shreveport, La., March 22-24, 1973. Dr. C. V. Chenoweth, 1016 Clinic Dr., Tyler 75701, Sec.

APRIL

AMERICAN ACADEMY OF FACIAL PLASTIC AND RECONSTRUCTIVE SURGERY, St. Louis, April 3-5, 1973. Dr. Carl N. Patterson, 1110 W. Main St., Durham, NC 27701, Sec.

AMERICAN ACADEMY OF NEUROLOGY, Boston, April 23-28, 1973. Stanley A. Nelson, 4005 W. 65th St., Minneapolis 55435, Exec. Sec.

AMERICAN ACADEMY OF PEDIATRICS, Boston, April 9-12, 1973. Dr. Robert G. Frazier, 1801 Hinman Ave., Evanston, Ill., 60204, Exec. Dir.

AMERICAN ASSOCIATION OF ANATOMISTS, New York City, April 9-12, 1973. Dr. John E. Pauly, University of Arkansas School of Medicine, Little Rock 72201, Sec.

■ AMERICAN ASSOCIATION OF PLANNED PARENTHOOD PHYSICIANS, Houston, April 11-14, 1973. Richard A. Ferguson, 3601 Fannin St., Houston 77004, Exec. Dir.

■ AMERICAN ASSOCIATION FOR THORACIC SURGERY, Dallas, April 16-18, 1973. William T. Maloney, 6 Beacon St., Suite 620, Boston 02108, Exec. Sec.

AMERICAN COLLEGE OF ALLERGISTS, Atlanta, April 7-12, 1973. Dr. John D. Gillaspie, 2141 14th St., Boulder, Colo. 80302, Exec. Sec.

AMERICAN COLLEGE HEALTH ASSOCIATION, Chicago, April 24-27, 1973. James W. Dilley, 2807 Central St., Evanston, Ill. 60201, Exec. Dir.

AMERICAN COLLEGE OF PHYSICIANS, Chicago, April 8-13, 1973. Dr. Edward C. Rosenow, Jr., 4200 Pine St., Philadelphia 19104, Exec. V.-Pres.

AMERICAN COLLEGE OF RADIOLOGY, San Francisco, April 1-6, 1973. William C. Stronach, 20 N. Wacker Dr., Room 2920, Chicago 60606, Exec. Dir.

AMERICAN COLLEGE OF SURGEONS, New York City, April 2-4, 1973. C. Rollins Hanlon, 55 E. Erie St., Chicago 60611, Dir.

AMERICAN GERIATRICS SOCIETY, INC., Beverly Hills, April 25-26, 1973. Dr. Edward Henderson, 10 Columbus Circle, New York 10019, Exec. Dir.

AMERICAN MEDICAL ASSOCIATION, Fourth National Congress on Medical Ethics, Washington, DC, April 26-28, 1973. AMA, Judicial Council, 535 N. Dearborn St., Chicago 60610.

AMERICAN SOCIETY OF INTERNAL MEDICINE, Chicago, April 6-8, 1973. William R. Ramsey, 525 Hearst Bldg., San Francisco 94103, Exec. Dir.

■ EIGHTH DISTRICT MEDICAL SOCIETY, Bay City, April 14, 1973. Dr. Edward F. Pesek, 1413 Avenue G., Bay City 77414, Sec.

INDUSTRIAL MEDICAL ASSOCIATION, Denver, April 15-19, 1973. Howard N. Schulz, 150 N. Wacker Dr., Chicago 60606, Exec. Dir.

INTERNATIONAL ACADEMY OF PROCTOLOGY, 25th Annual Congress and Teaching Seminar, Tokyo, Hong Kong, Thailand, April 29-May 14, 1973. Dr. Alfred J. Cantor, 147-41 Sanford Ave., Flushing, NY 11355, Exec. Officer.

NATIONAL COUNCIL ON ALCOHOLISM, INC., Washington, DC, April 4-6, 1973. William W. Moore, Jr., 2 Park Ave., New York 10016, Exec. Dir.

■ TENTH DISTRICT MEDICAL SOCIETY, April 1973. E. Mittendorf, PO Box 768, Beaumont 77704, Exec. Sec.

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■ TEXAS SURGICAL SOCIETY, Galveston, April 1-3 1973. Dr. Robb H. Rutledge, 901 S. Lake, Ft. Worth 76104, Sec.

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■ THIRTEENTH DISTRICT MEDICAL SOCIETY, Mineral Wells, April 1973. Dr. Dorothy Patras, PO Box 1118, Ft. Worth 76101, Sec.-Treas.

MAY

AEROSPACE MEDICAL ASSOCIATION, Las Vegas, May 7-10, 1973. Dr. Merrill H. Goodwin, Washington Nat'l. Airport, Washington, DC 20001, Exec. Sec.

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AMERICAN UROLOGICAL ASSOCIATION, INC., New York City, May 14-17, 1973. Richard J. Hannigan, 1120 N. Charles St., Baltimore 21201, Exec. Sec.

MEDICAL LIBRARY ASSOCIATION, Kansas City, Kan., May 27-31, 1973. Helen Brown Schmidt, 919 N. Michigan Ave., Chicago 60611, Exec. Sec.

NATIONAL LEAGUE FOR NURSING, Minneapolis, May 6-9, 1973. Margaret E. Walsh, 10 Columbus Circle, New York 10019, Sec. & Gen. Dir.

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JUNE

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AMERICAN NEUROLOGICAL ASSOCIATION, Montreal, June 11-13, 1973. Dr. Samuel A. Trufant, Cincinnati General Hospital, Cincinnati 45229, Sec.

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AMERICAN PROCTOLOGIC SOCIETY, Detroit, June 10-14, 1973. Harriette Gibson, 320 W. Lafayette, Detroit 48226, Adm. Sec.

■ TEXAS PHARMACEUTICAL ASSOCIATION, San

Antonio, June 20-23, 1973. Luther R. Parker, PO Box 4487, Austin 78701, Exec. Officer.

JULY

AMERICAN ACADEMY OF FAMILY PHYSICIANS, NEW MEXICO CHAPTER, 16th Annual Ruidoso Summer Clinic, Ruidoso, NM, July 16-19, 1973. Bob Reid, PO Box 456, Sunland Park, NM 88063, Exec. Sec.

FLYING PHYSICIANS ASSOCIATION, San Diego, July 22-27, 1973. Albert Carriere, 801 Green Bay Rd., Lake Bluff, Ill. 60044, Exec. Officer.

ROCKY MOUNTAIN CANCER CONFERENCE, Denver, July 13-14, 1973. F. C. Schmidt, 1764 Gilpin, Denver 80218, Exec. V.-Pres.

AUGUST

■ AMERICAN CANCER SOCIETY, TEXAS DIVISION, Dallas, Aug. 23-24, 1973. Curt W. Reimann, 5100 Ridge Oak, Austin 78731, Exec. V.-Pres.

SEPTEMBER

■ AMERICAN ACADEMY OF OPHTHALMOLOGY AND OTOLARYNGOLOGY, Dallas, Sept. 16-20, 1973. Dr. C. M. Kos, 15 Second St. SW, Rochester, Minn. 55901.

AMERICAN CANCER SOCIETY, Second National Conference on Cancer of the Colon and Rectum, Bal Harbour, Fla., Sept. 27-29, 1973. Dr. Sidney L. Arje, 219 E. 42nd St., New York 10017.

AMERICAN ROENTGEN RAY SOCIETY, Montreal, Sept. 25-28, 1973. Dr. Ted F. Leigh, Emory University Clinic, Atlanta 30322, Exec. Sec.

INTERNATIONAL MEDICAL CONGRESS, Fourth International Conference on Birth Defects, Vienna, Austria, Sept. 2-8, 1973. Richard C. Gedney, 1275 Mamaroneck Ave., White Plains, NY 10605, Exec. Sec.

■ PANHANDLE DISTRICT MEDICAL SOCIETY, Lubbock, Sept. 15, 1973. Carlie Umphres, PO Box 3276, Amarillo 79106, Exec. Officer.

■ TEXAS PEDIATRIC SOCIETY, Austin, Sept. 1973. Dr. Pat A. Cato, 1015 E. 32nd St., Austin 78705, Sec.

OCTOBER

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AMERICAN ACADEMY OF PHYSICAL MEDICINE AND REHABILITATION, Washington, DC, Oct. 21-26, 1973. Creston Herold, 30 N. Michigan Ave., Chicago 60602, Exec. Officer.

AMERICAN ASSOCIATION FOR LABORATORY ANIMAL SCIENCE, Bal Harbour, Fla., Oct. 1-5, 1973. Joseph J. Garvey, 2317 W. Jefferson, Suite 208, Joliet, Ill. 60435, Exec. Sec.

AMERICAN ASSOCIATION OF MEDICAL ASSISTANTS, Washington, DC, Oct. 23-27, 1973. Dene R. Murray, One E. Wacker, No. 1510, Chicago 60601, Exec. Dir.

AMERICAN BOARD OF FAMILY PRACTICE, Oct. 20-21, 1973. Dr. Nicholas J. Pisacano, University of Kentucky Medical Center, Annex No. 2, Rm. 229, Lexington 40506, Sec.

AMERICAN COLLEGE OF CHEST PHYSICIANS, Toronto, Ontario, Oct. 21-25, 1973. Dr. Alfred Soffer, 112 East Chestnut, Chicago 60611, Exec. Dir.

AMERICAN COLLEGE OF SURGEONS, Chicago, Oct. 15-19, 1973. C. Rollins Hanlon, 55 E. Erie St., Chicago 60611, Dir.

AMERICAN CONGRESS OF REHABILITATION MEDICINE, Washington, DC, Oct. 21-26, 1973. Creston Herold, 30 N. Michigan Ave., Chicago 60602, Exec. Officer.

AMERICAN SOCIETY OF ANESTHESIOLOGISTS, San Francisco, Oct. 7-11, 1973. John W. Andes, 515 Busse Highway, Park Ridge, Ill. 60068, Exec. Sec.

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ASSOCIATION OF LIFE INSURANCE MEDICAL DIRECTORS OF AMERICA, New York City, Oct. 14-17, 1973. Dr. Athur E. Brown, 501 Boylston St., Boston 02117, Sec.

SOUTHERN PSYCHIATRIC ASSOCIATION, Miami, Oct. 6-9, 1973. Annette S. Boutwell, PO Box 10387, Raleigh, NC 27605, Exec. Sec.

■ TEXAS MEDICAL ASSOCIATION, Austin, Oct. 5-7, 1973. C. Lincoln Williston, 1801 N. Lamar Blvd., Austin 78701, Exec. Sec.

WORLD MEDICAL ASSOCIATION, Munich, Germany, Oct. 14-20, 1973. M. L. Natwick, 10 Columbus Circle, New York 10019, Exec. Sec.

NOVEMBER

AMERICAN ASSOCIATION OF BLOOD BANKS, Bal Harbour, Fla., Nov. 11-16, 1973. Lois J. James, 30 N. Michigan Ave., Chicago 60602, Cen. Office Mgr.

AMERICAN MEDICAL ASSOCIATION, Anaheim, Calif., Nov. 25-28, 1973. AMA, 535 N. Dearborn St., Chicago 60610.

■ TEXAS ACADEMY OF FAMILY PHYSICIANS, San Antonio, Nov. 5-7, 1973. Donald C. Jackson, 1905 N. Lamar Blvd., Austin 78705, Exec. Officer.

■ TEXAS DERMATOLOGICAL SOCIETY, San Antonio, Nov. 12-15, 1973. Dr. Eugene P. Schoch, Jr., 8A Medical Arts Sq., Austin 78705, Sec.

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– George Sarton, from "The History of Medicine Versus the History of Art"

Are combination drug products useful in treatment involving concomitant use of two or more drugs?

Opinion

Results of a questionnaire to 7,000 physicians:

62.9%
Believe combination drug products are useful.

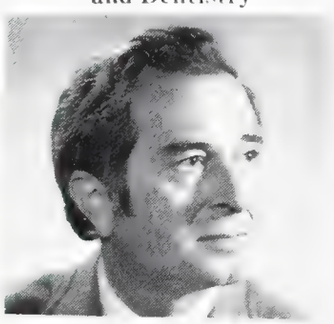
13.8%
Do not believe combination drug products are useful.

Are combination drug products useful in treatment involving concomitant use of two or more drugs?

Opinion & Dialogue

Doctor of Medicine

Louis Lasagna, M.D.
Professor and Chairman
Department of
Pharmacology & Toxicology
University of Rochester
School of Medicine
and Dentistry



Obviously, many drugs are given concomitantly. Whether it makes sense to combine medications in one preparation, be it capsule, tablet, or liquid, is a question that can be answered only by examining the advantages and disadvantages in the individual case.

Among the advantages is, first of all, convenience. The more medications that are taken concurrently and the more complicated the directions, the less likely the patient is to take medications accurately. From the standpoint of convenience and accuracy, and economy as well, you can make an important case for putting medications together in one preparation, as long as they are compatible.

By the same token, when you prescribe a properly tested and rational combination, you should have less worry about pharmaceutical or pharmacological compatibility – and about reasonable dosage ratios as well. Compatibility of the formulation should be demonstrated in the laboratory and clinic before the product is available for prescription—which is more than can usually be said for the physician's own spontaneous creations. And, the dosage ratios employed in rational precompounded combinations are designed to meet the needs of substantial numbers of "typical" patients.

There is no doubt that many "atypical" patients are to be found, and for them the prefabricated combination must be rejected. But that hardly argues for eliminating rational combinations from the market. Think, for example, of the problems that would arise if the components of widely accepted combinations, like the oral contraceptives and the diuretic-antihypertensives, always had to be prescribed, purchased and ingested separately.

One disadvantage that comes to mind is some doctors' unawareness of the ingredients a given combination contains. For example, a doctor might know that a patient is allergic to aspirin but forget that a certain analgesic mixture, which he knows only by its trade name, contains aspirin. His prescription, then, causes considerable discomfort, to say the least. This problem is a function of physician education, rather than of combination therapy as such. Improving doctors' knowledge about all medicaments they prescribe is a problem that deserves tackling on its own.

Another accusation leveled at combination drugs is that they encourage sloppiness of diagnosis and treatment. In many cases, however, a combination may prove to be the most effective choice. A good example of the usefulness of combinations appears in a recent article in the *Journal of Chronic Diseases* on the efficacy and side effects of an antihypertensive containing three ingredients, in which the track records of the combination drug and the individual ingredients were compared. Interestingly enough, whether the drugs were given individually or together, incidence and severity of side effects were the same. But blood pressure control was invariably better when the drugs were taken in one combination tablet than when they were taken separately (in "titratable" dosage) or in two or three different tablets.

Deciding which combinations constitute rational therapy obviously leads to a discussion of who is to determine which should be used and which should not. Realistically, I think combinations should be evaluated somewhat differently if they are old and established or new and untried.

In today's regulatory atmosphere, there is no possibility of a new combination being put on the market without a substantial amount of acceptable evidence in the form of controlled trials that show it to be safe and efficacious. On the other hand, I believe a different set of standards should apply to combination preparations that have been around for a long time. In other words, physician acceptance over a long period should be given some weight as evidence of the efficacy and safety of these drugs.

The FDA, however, does not seem to share this attitude. It often requires, for these older products, controlled trials that will monopolize the time of already overtired investigators and cost a great deal of money. I wish we could agree on a "grandfather clause" approach to preparations that have been in use for a number of years and that have an apparently satisfactory track record.

For example, I think some of the antibiotic combinations that were taken off the market by the FDA performed quite well. I am thinking particularly of penicillin - streptomycin combinations that patients—especially surgical patients—were given in one injection. This made for less discomfort for the patient, less demand on nurses' time, and fewer opportunities for dosage errors. To take such a preparation off the market doesn't seem to be good medicine, unless actual usage showed a great deal of harm from the injections (rather than the proper use) of the combination.

The point that should be emphasized is that there are both rational and irrational combinations. The real question is, who should determine which is which? Obviously, the FDA must play a major role in making this determination. In fact, I don't think it can avoid taking the ultimate responsibility, but it should enlist the help of outside physicians and experts in assessing the evidence and in making the ultimate decision.

Maker of Medicine

W. Clarke Wescoe, M.D.
President
Winthrop Laboratories

If two medications are used effectively to treat a certain condition, and it is known that they are compatible, it clearly is useful and convenient to provide them in one dosage form. It would make no sense, in fact it would be pedantic, to insist they always be prescribed separately. To avoid the appearance of pedantry, the "expert" decries the combination because it is a fixed dosage form. When the "expert" invokes the concept of fixed dosage form he obscures the fact that single-ingredient pharmaceutical preparations are also fixed dosage forms. By a singular semantic exercise he implies a pejorative meaning to the term "fixed dose" only when he uses it with respect to combinations. What is ignored is the simple fact that only in the rarest of circumstances does any physician attempt to titrate an exact therapeutic response in his patient. It is quite possible that some aches and pains will respond to 500 mg. of aspirin yet that fact does not militate against the *usual* dose being 650 mg.

The other semantic ploy often called into play is to describe a combination product as rational or irrational.

Take antibiotic mixtures, the source of much of the criticism generated against combinations generally. Obviously, no one should be exposed willy-nilly to the potential side effects of two or three antibiotics when only one is needed. At the same time there are cases where it is prudent to prescribe more than one. The clinician is the judge in these circumstances, as he should be.

There is no clear definition of the word rational. Most persons, I suppose, would find it synonymous with reasonable, but in many circumstances it may best be defined as the opinion of those in power at the moment.

Other factors govern combination therapy, not the least of which has been its broad use by practicing physicians anxious to achieve convenience in prescribing, to reduce medication error, and to save money for their patients. Combinations clearly have met the test on all three counts.

I have been impressed by studies showing that the rate of error climbs markedly with the number of medications to be taken, even with sophisticated patients. When medically justified, therefore, this factor alone supports the logic of combination therapy.

The cost argument for combinations appears to be irrefutable. In 1971, R. A. Gosselin studied the 71 combination products (excluding oral contraceptives) among the 200 most prescribed drugs. The study found that if all 71 products were discontinued, and if each ingredient in these combinations were prescribed separately, the price of medicines to patients would jump by $443.2 million on a national basis! At a time when the cost of medical care is under so much fire, it would be nonsensical to boost costs without clearly irrefutable medical reasons.

The part played by government on this question, of course, is fundamental. The FDA should play a role in determining which combinations are reasonable. That role, as defined by law and regulation, is to ensure that any medication on the market is safe and effective in line with its label claims. Certainly combinations are entitled to as much consideration as single entities—neither more nor less. So long as the addition of one drug to another does not make either less safe, or less effective, so long as they are compatible in a formulation, we have a reasonable product. It makes no sense to recommend the use of two products for certain conditions and to deny their being combined in a single form. An unhappy side effect of the problem concerns the efficacy panel discussions of many products submitted for review. The term "effective, but" has been freely interpreted to mean "ineffective" in toto, regardless of the merit of the individual drugs. This interpretation has placed numerous useful combination products in needless jeopardy.

In reading the actual reports of the review panels, it seems clear that some of the ratings were based less on scientific research and clinical observation than on the "informed" opinions of the panelists. These "informed" opinions were accepted at face value, while the "informed" opinions of others who had used the products were rejected. All of this put combination products into a sort of scientific never-never land.

It should be kept in mind by all, government as well as others involved in our health care system, that advances in therapy are seldom made in leaps and bounds but rather by small painstaking steps—and that some of these steps have resulted from research in combination drugs as well as with single entities. Given the near-infinite biologic variation in patient response, this is hardly surprising to clinicians. It should not be to regulatory agencies either.

In the end, the practicing physician is in the best position to decide if a particular combination makes sense. Such a decision should not be made exclusively by those whose responsibility for continuing clinical care is limited. Clinicians are the best judges of efficacy because the ultimate proof of any product's effectiveness is acceptance by physicians who have observed its actions in patients over time. The corollary statement may be made about over-the-counter medicines, which would not long survive if they failed to afford the relief the user anticipates. That the antihistamine in a "cold" remedy may not *always* be necessary is no reason to proscribe the combination generally.

Opinion & Dialogue

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Lethal drug interactions

Eric W. Martin, PhC, PhD

Increasing awareness of the hazards of medications, particularly of drug interactions, was largely responsible for the initiation of major changes in medical care and in medical education between 1960 and 1970. The highly publicized estimate that, during that single decade, 15 million hospital admissions in the United States alone resulted from adverse drug reactions, many of which were drug interactions, has led to critical reevaluation of chemotherapy.[291] The resulting impact on research, manufacturing, prescribing and administration of drugs has been one of the most powerful ever experienced by physicians, manufacturers of medications and all other members of the patient care team.

While the misuse of medications was presenting serious problems, more than 30% of the medical patients in some hospitals experienced one or more drug reactions during their stay. And nearly a third of the patients admitted because of a drug reaction experienced another while in the hospital. As high as one out of every four deaths on some public wards was due to adverse drug effects, and a high percentage of the reactions to toxic drugs like digitalis were lethal. The additional annual cost of this increased burden on American hospitals has been estimated to be approximately $3 billion.*

This situation is slowly being rectified as improvements in medical education, clinical research and medical practice are being made as well as improvements in drug distribution and dissemination of drug information. Adverse reactions to medications are much better understood than they were a decade ago and their incidence appears to be declining.

For many centuries, the drugs used to treat patients were mostly placebos or only slightly active galenicals made from plants and taken in large doses. Only a few, such as the cardiac drug squill, mentioned in the Ebers Papyrus of about 1500 BC, and the diuretic digitalis, commented on by Welsh physicians as early as 1250 AD, were definitely toxic agents. Not until the age of synthetic chemotherapy, introduced by Ehrlich with his drug number 606 in 1909, did the potency of new drugs begin to increase exponentially. Doses diminished from spoonfuls to micrograms, and in the scramble to develop ever more potent chemicals for use in patients, insufficient attention was paid to the hazards of overdosage, idiosyncrasies, inherited anomalies, side effects and other situations that produced exaggerated responses and sometimes death. As a result, malpractice litigation became so voluminous that the Secretary of the US Department of Health, Education and Welfare appointed a Commission on Medical Malpractice to hold hearings during 1971 and 1972.

Although drugs have unquestionably been valuable in improving human health, their abuse and misuse still continue to injure many persons. Damage may be particularly severe when warnings against the use of certain hazardous combinations of drugs are not heeded.

Each revision of the labeling accompanying medications now includes more and more warnings against drug combinations that are hazardous. By 1972, hundreds of potentially lethal combinations had been reported in the literature (Fig 1). Many of these are associated with low mortality rates, however; only one or very few deaths have been reported for some of them. Furthermore, some hazardous combinations are used in low doses.

Whether a given drug interaction will be

*50, 116, 191, 222, 226, 230, 250.

*1. Some potentially lethal drug combinations.**

Primary Agent	Interactant
Alcohol	Barbiturates[102,106,133,144,211] Carbrital[74] Chloral hydrate[92,200] Chlorpromazine (Thorazine)[74,144] CNS depressants[48,74] (Hypnotics, sedatives, etc) Disulfiram (Antabuse)[3,128] Glutethimide (Doriden)[93] Insulin[16] Meprobamate (Equanil, Miltown)[144,271] Methotrexate[74,94] Morphine and narcotic analgesics[74,200] Muscle relaxants[200] Nitrates and nitrites[144,224] Pentaerythritol tetranitrate[74] (Miltrate, Peritrate, PETN, etc) Quinidine[149] Sedatives and hypnotics[4,74,144] Tricyclic antidepressants[42,150,159,201]
Amphetamines	Caffeine[74] Cocaine[94,242] MAO inhibitors[39,145,157,190,268] Propoxyphene (Darvon)[74,78] Tyramine-rich foods[76,77]
Anesthetics	Adrenergic neuron blockers[4,74,144,172,195,270] (Guanethidine, methyldopa, reserpine, etc) Antibiotics[24,26,31,60,82,84,85,184,210] (Kanamycin, neomycin, streptomycin, and other neuromuscular blockers) Antihypertensives[8,20,56,74] Barbiturates[74,96,172] Catecholamines[1,6,72,73,184,186,189,209] Corticosteroids[12,24] Guanethidine (Ismelin)[74,172] MAO inhibitors[181,188] Mebutamate (Capla)[74] Oxytocics with vasoconstrictor[41,216] Propranolol (Inderal)[4,74,172,185] Rauwolfia alkaloids[144,195,270] Sedatives and hypnotics[4,74]
Antibiotics (neuromuscular blockers) (Bacitracin, dihydrostreptomycin, gentamycin, gramicidin, kanamycin, neomycin, polymyxin B, streptomycin, viomycin, etc)	Anesthetics[24,26,31,60,82,84,85,184,210] Antibiotics[26,31,38,40,70,82,139,156,215,221,228] Muscle relaxants[23,37,38,85,101,127,139,247,254,262] Procainamide (Pronestyl)[4,59,74] Promethazine (Phenergan)[208] Quinidine[13,59,261]
Anticoagulants, oral (Coumadin, Dicumarol, Panwarfin, Sintrom, etc)	Analgesics[15,89,90,219,263] (Aspirin, pyrazolones, etc) Antidiabetics, oral[18,108,207,264] Antineoplastics[23,74,79,252] Carbon tetrachloride[164,234] Clofibrate (Atromid-S)[123,194,219,220] Dextrothyroxine (Choloxin)[196,219,234,236] Indomethacin (Indocin)[71,90,219] Mefenamic acid (Ponstel)[223] Oxyphenbutazone (Tandearil)[89,117,219,263] Phenylbutazone (Butazolidin)[2,58,89,117,219,263] Salicylates[9,71,110,239] Thyroid preparations[9,219,281] Vitamin K analogs[279]
Anticonvulsants	Methylphenidate (Ritalin)[91] Narcotics[74,96,242]

*Some drug combinations may be lethal indirectly, eg, by preventing urgently needed drug action in a crisis (wrong form of vitamin K in severe bleeding caused by anticoagulants) or by incapacitating a patient in a hazardous situation (eg, piloting an aircraft), or by causing such severe depression that the patient commits suicide.

Antidepressants, tricyclic (Aventyl, Elavil, Norpramine, Pertofrane, Sinequan, Tofranil, Vivactil, etc)	Alcohol[150,159] Diphenylhydantoin (Dilantin)[34,74] Guanethidine (Ismelin)[11,152,173,176,177,241] MAO inhibitors[19,38,61,95,129,159,161] Methyldopa (Aldomet)[111,265] Reserpine[74,136,138] Salicylates[32,119]
Antidiabetics, oral (Diabinese, Dymelor, Orinase, Tolinase, etc)	Anticoagulants (oral)[146,237] MAO inhibitors[52,53] Sulfonamides[4,181,232,275]
Antihistamines	CNS depressants[48,141,142,151,217,260]
Chloramphenicol (Chloromycetin)	Anticoagulants, oral[47,74] Antidiabetics, oral[47,204]
CNS depressants	See Alcohol, Anesthetics, Antihistamines, Meperidine, Morphine, Sedatives and Hypnotics, etc.
Corticosteroids	Anesthetics[12,24] Sympathomimetics (in asthmatics)[74,189] Vaccines (see below)
Cyclopropane	Epinephrine[1,72,73,134,140,171,182,209] Levarterenol (Levophed)[74,140,166,180]
Dextromethorphan	MAO inhibitors (phenelzine, etc.)[213]
Dextrothyroxine (Choloxin)	Anticoagulants (oral)[9,185,161,196,219,220] Epinephrine (coronary insufficiency)[74]
Digitalis	Calcium salts (IV)[4,99,173] Diuretics (hypokalemia)[130,172,187] Propranolol[104]
Diphenylhydantoin (Dilantin)	Analeptics (in overdosage)[4,74,96] Disulfiram (Antabuse)[67,109,143,162,182,193] Folic acid antagonists[172,258,259] (Methotrexate, etc.) Phenyramidol (Analexin)[147,172,238,243] Sulfonamides[112,162,163]
Disulfiram (Antabuse)	See under Alcohol. Other drugs producing the disulfiram-like reaction include calcium carbamide, carbutamide, oral antidiabetics, PETN, and quinacrine.
Echothiophate (Phospholine) Iodide	Anticholinesterase insecticides[74] Succinylcholine[74,272,273]
Epinephrine	Chloroform[154,155,171,182] Cyclopropane[1,72,73,134,140,166,171,182,209] Dextrothyroxine (Choloxin)[74,267] Fluroxene (Fluoromar)[126,140] Halothane (Fluothane)[6,87,107,115,140,240,251,255] Isoproterenol (Isuprel)[7,103,158,169,212] Levothyroxine[243,267] Methoxyflurane (Penthrane)[21,126] Phenylephrine (Neo-Synephrine)[74] Sympathomimetics[7,103,158,169,212] Thyroid preparations[74,243,267]
Ethacrynic acid (Edecrin)	Anticoagulants (oral)[4,223] Digitalis[74]
Furosemide (Lasix)	Digitalis[74] Muscle relaxants[55,74,181]
Levarterenol (Levophed)	Anesthetics[6,74,134,180,209,240] Antidepressants, tricyclic[121,187,188,229,244] Guanethidine (Ismelin)[69,172,242] Reserpine (in bronchial asthma)[69] Thyroid preparations[89,244,267]

MAO inhibitors (Eutonyl, Furoxone, Marplan, Matulane, Nardil, Niamid, Parnate, etc)	Amphetamines[39,145,157,190,268] Analgesics[5] Anesthetics[24,74,181,181] Antidepressants[11,19,36,61,85,161] Antidiabetics (oral)[52-54] Caffeine (excessive amounts)[74] Carbamazepine (Tegretol)[74] Cheese (strong, ripe)[10,17,22,27,28,30,62,120,153,245] CNS depressants[20,48,95,203,225,266] Dextromethorphan[74,213] Dopa[124] Ephedrine[80] Guanethidine (Ismelin)[74] Isoproterenol (Isuprel)[80,95,105,114,157,246] Levodopa (Dopar, Larodopa, etc)[14,86,125] Livers (beef and chicken)[85,86,113] Meperidine (Demerol)[5,12,39,65,178,197, 229,253] Metaraminol (Aramine)[118] Methyldopa (Aldomet)[74,99,214] Methylphenidate (Ritalin)[74] Propranolol (Inderal)[46,74,248] Reserpine[44,45,130,131,183,206,274] Tyramine-rich foods[12,27,28,29,33]
Meperidine (Demerol, pethidine, etc)	Anesthetics[225,269] MAO inhibitors[49,65,74,178,179,197, 198, 227, 229, 253]
Methotrexate	Salicylates[68,207] Sulfonamides[68,207]
Methyldopa (Aldomet)	Antidepressants, tricyclic[111] MAO inhibitors[74,202,214]
Morphine	Propranolol (Inderal)[185]
Muscle relaxants, depolarizing (Decamethonium, succinylcholine, etc)	Anesthetics (halogenated)[74] Antibiotics[23,37,38,85,101,127, 139,170,205,247,254,257,262] (neuromuscular blocking) Anticholinesterases[242] Furosemide (Lasix)[55,181,248] Quinidine[59,175,218,261]
Oxytocics	Vasoconstrictors[41,100,216]
Quinidine	Antibiotics[18,59,261] (neuromuscular blocking) Muscle relaxants[59,175,218,261]
Reserpine	Anesthetics[74,144,195,270] Antidepressants, tricyclic[74,136,138,225] Digitalis[66,74,233] MAO inhibitors[44,45,130,131,183,206,274]
Salicylates	Anticoagulants, oral[9,71,110,229] Antidepressants, tricyclic[119] Indomethacin (Indocin)[74,182] 6-Mercaptopurine (Purinethol) Methotrexate[68,172,207]
Sedatives and hypnotics	Alcohol[4,74,144] Antidepressants[96,242] Other CNS depressants[4,43,74,76,141,142, 151,172,217,225,260,269]
Sulfonamides, long acting	Antidiabetics, oral[4,181,232,275] Diphenylhydantoin (Dilantin)[18,122,162,163,276] Methotrexate[68,172,207]
Tetracyclines	Methoxyflurane (Penthrane)[148]
Vaccines, virus, live, attenuated	ACTH[74,277,278] Antineoplastics[74,277] Corticosteroids[74,277,278] X-ray therapy[74,277]

directly or indirectly lethal depends on the susceptibility and occupation of the patient, dosage level, timing and frequency, the order in which the interacting drugs are given, and various pharmacodynamic and disease factors. A great deal more research is needed to determine interaction incidences, as well as information about the mechanisms involved.

Mechanisms of Adverse Drug Interactions
Although therapeutic incompatibilities have been reported for many decades, most of the information on adverse drug interactions has appeared in the literature only since about 1960.[64,178,197] Since then, many physicians have reported instances when a drug or other chemical that contacted the body has inhibited, potentiated, or otherwise modified the action of a drug given previously, concomitantly, or subsequently.†

Modification of the desired effect, ie, a drug interaction, results from (1) direct effect on the drug, (2) modification of gastrointestinal absorption, (3) modification of dermatomucosal absorption, (4) alteration of distribution, (5) modification of action at receptor sites, (6) modification of biotransformation, (7) alteration of excretion, and (8) disturbances of water and electrolyte balance. These mechanisms are shown in Fig 2. Not all of them necessarily produce lethal interactions, but all may have adverse effects on drug therapy and, in order to be complete, every known type of mechanism has been included.[286-295]

1. Direct Effect on the Drug: Drugs administered together for their internal effects, eg, as additives to intravenous solutions, may inactivate each other physically or chemically. Thus, the antibiotics kanamycin and methicillin inactivate each other by complex formation when they are injected at about the same time. Protein hydrolysates bind barbiturates, digitoxin, tetracyclines, and many other drugs. Some examples are less obvious. Thus, bisulfite and sulfur dioxide, used in low concentra-

1. Direct effect on the drug
2. Modification of gastrointestinal absorption
   a. Alteration of functions
      (1) Rate of transport of the contents
      (2) Metabolic processes of the flora
   b. Alteration of contents
      (1) The pH
      (2) Complexation
      (3) Dissolution
      (4) Diffusion
      (5) Osmotic pressure-
      (6) Salt formation
      (7) Sequestration
   c. Alteration of mucosa
   d. Alteration of transport mechanisms
3. Modification of dermatomucosal absorption
4. Alteration of distribution
   a. Alteration of drug transport
      (1) Fluid flow
      (2) Physical and biochemical factors
      (3) Transmembranal transport
   b. Alteration of drug binding
5. Modification of action at receptors
   a. Increasing drug concentration at its receptors
   b. Increasing drug reactivity at its receptors
   c. Altering the concentration of an endogenous agent
      (1) Synthesis
      (2) Release
      (3) Uptake
6. Modification of biotransformation
   a. Enzyme induction
   b. Enzyme inhibition
7. Alteration of excretion
8. Disturbance of water and electrolyte balance

2. Mechanisms of drug interactions.

†16,27,46,51,63,75,81,88,96-101,122, 168,172,181,207,248

tions as preservatives for sensitive drugs like epinephrine, inactivate penicillin if the sympathomimetic is injected at the same time as the antibiotic.

Any such direct interactions that inhibit the action of an anti-infective urgently required in a life-threatening situation may have serious consequences.

2. Modification of Gastrointestinal Absorption: Absorption of perorally administered medication from the gastrointestinal tract may be modified in at least four ways: alteration of functions, contents, mucosa, and transport mechanisms.

a. Alteration of Functions: Drug actions may be modified by altering two functions of the tract: the rate of transport of the contents and the metabolic processes of the flora.

(1) Rate of transport of contents: Altering the motility of the stomach and intestines may significantly modify the rate of absorption of drugs from various sites of the tract. This rate is increased if drugs that are more readily absorbed from the stomach are retained there for a prolonged period, or if drugs that are more readily absorbed from the intestines are expelled from the stomach promptly and allowed to pass slowly past the sites at which they are most readily absorbed in the intestines. The reverse is also true.

Therefore, cathartics, cholinergics, and other drugs that tend to expedite passage of the gastrointestinal contents tend to decrease absorption. On the other hand, many drugs that decrease motility (anticholinergics, chloroquine, ganglionic blocking agents, opiate analgesics, some tricyclic antidepressants, etc) tend to increase the absorption of some drugs.

(2) Metabolic processes of the flora: Modifying or destroying certain intestinal bacteria may appreciably change the effects of some drugs. If the bacteria that produce vitamin K are destroyed by an antibiotic in a patient receiving anticoagulants, severe bleeding may occur. If the bacteria that metabolize a toxic drug in the gut are destroyed, the toxicity of that drug may be considerably increased. Thus the toxicity of the antipsoriatic and antineoplastic methotrexate, that is recycled enterohepatically and that is partly metabolized in the intestinal tract, may be intensified by the antibacterial activity of a poorly absorbed antibiotic like neomycin.

b. Alteration of Contents: Apart from the amout of fluid and food in the tract and environmental and psychological stresses, at least seven major factors alter the contents of the tract physically or chemically so that the rate of drug absorption is altered.

(1) The pH: Elevating the pH with an alkaline drug like sodium bicarbonate generally inhibits absorption of most acidic drugs such as nalidixic acid, nitrofurantoin, oral anticoagulants, phenylbutazone, probenecid, salicylates, and secobarbital. On the other hand, elevating the pH increases the absorption of basic drugs like aminopyrine, ephedrine and quinine. Lowering the pH with an acidic drug like glutamic acid hydrochloride generally has the opposite effects, ie, increases absorption of acidic drugs and decreases absorption of basic drugs.

(2) Complexation: Some drugs form chelates that are only very slightly soluble. Tetracyclines may not be adequately absorbed in the presence of some antacids, dairy products and other substances containing various divalent and trivalent ions (aluminum, barium, calcium, magnesium and strontium). On the other hand, tetracyclines may be absorbed and reach thera-

peutic blood levels more rapidly in the presence of adjuvants such as phoscolic acid, glucosamine, etc. This is a controversial subject.[165,284,285] Digitoxin, phenylbutazone, thyroxine and several other drugs are bound by the basic anion exchange resin cholestyramine. And iron is bound by phytic acid which is present in some cereals.

(3) Dissolution: The deaggregation and dissolution rates of some drugs may be considerably inhibited or accelerated by interactants, thus causing loss of efficacy on the one hand or increased potency and toxicity on the other. An enteric coated drug like bisacodyl may be extremely irritating to the stomach if its coating is rapidly removed by simultaneous administration of a gastric antacid. The potency and toxicity of a timed release medication such as Ornade may be greatly increased if martinis taken with the medication rapidly dissolve the coating and release the active agents prematurely. Alcohol is a good solvent as well as a good tranquilizer.

(4) Diffusion: Dispersion of a drug in the ambient fluids to its sites of gastrointestinal absorption may be inhibited if an interactant alters any one of a large number of physical properties such as miscibility and viscosity. Thus, drugs may be inhibited by adjuvants such as gelatin or carboxymethylcellulose.

(5) Osmotic pressure: Increasing the osmotic pressure within the tract tends to offset the osmotic gradient across the absorbing membrane, which tends to force the dissolved drug into the body. This increase in osmotic pressure inhibits absorption. Magnesium sulfate with its slightly absorbable ions tends, by this mechanism, to retain water within the tract as well as hasten its passage through the tract, and

Adjuvants that affect absorption mechanisms
Anion or cation combined with the acidic or basic drug
Blood supply to the villi and gastric mucosa
Buffer capacity of the medication
Characteristics of the drug product coating
Coating of the absorption sites with lipoids or mucoids
Complexation
Composition of the vehicle
Concentration of dissolved drug at absorption sites
Degree of ionization
Diffusion characteristics and contrasts
Degree of vasoconstriction or vasodilation
Electrochemical gradient across the absorption membrane
Extent of vascularization
Flow rates of blood and lymph
Hydrostatic gradient across the absorption membrane
Interfering ions
Introduction of carriers
Ionic charges and strengths
Lipid-water partition coefficient
Local tissue irritation
Molecular configuration of the drug
Morphology of the absorption membranes
Osmotic gradient across the absorption membrane
pH gradient across the absorption membrane
pK_a of the drug
Polarity of the drug
Porosity of the absorption membrane
Polymorphic form of the drug
Rate of drug dispersion after absorption
Solvent drag
Stability of the drug
Surface activity of the drug
Surface areas of drug and absorption site
Surface tension of dissolution fluid
Thickness of absorption membrane
Viscosity of fluids
Width of intercellular channels

3. Some factors influencing transmucosal transport.

thereby prevent absorption of dissolved medication.

(6) Salt formation: A drug in contact with another chemical may form a salt that is either more or less soluble, stable or absorbable than the original drug. Iron salts, for example, form poorly absorbed insoluble carbonates with antacids and other drugs that contain the carbonate radical.

(7) Sequestration: The absorption of some drugs is prevented when they are sequestered in a lipoid substance. Thus the oil-soluble vitamins A, D and K are prevented by mineral oil from having adequate contact with the intestinal epithelium. This considerably decreases their rates of absorption.

c. Alteration of mucosa: Damage to the mucous membranes of the intestinal villi may considerably increase the rate of passage across these membranes. If they are destroyed by toxic doses of an irritant a drug may be absorbed as rapidly as when it is given intramuscularly or subcutaneously. Tannic acid has been used experimentally.

d. Alteration of Transport Mechanisms: Alteration of any one of the large number of factors involved in the transmucosal transport of drugs into the body may affect the rate of that transport. Fig 3 lists some of the factors that influence gastrointestinal absorption, and although incomplete, it emphasizes just how complex the problem really is.

3. Modification of Dermatomucosal Absorption: Interactions may be encountered with externally applied medications as well as with those administered gastrointestinally or parenterally. A dermatological agent may be prevented by another substance from acting on or making adequate contact with the skin or mucous membranes. Thus soap may inhibit the activity of acrisorcin in fungus infections. Such interactions, however, are seldom, if ever, likely to be lethal.

On the other hand, if an interaction enhances the absorption of an externally applied drug, a hazardous situation may be created. An eyedrop with an unsuitable vehicle may introduce a potent drug into the body percutaneously, and that drug may then interact with another drug administered by another route. The likelihood that such a potential hazard may arise becomes greater when more than one physician treats the same patient. For example, a dangerous reaction occurred when an ophthalmologist prescribed the potent anticholinesterase echothiophate iodide for glaucoma just before an anesthetist, unaware of the ophthalmic prescription, administered the muscle relaxant succinylcholine prior to the induction of general anesthesia. Any topically applied drug that is absorbed through the membranes of the ear, eye, mouth, nose, rectum, urethra or vagina may interact with other drugs administered gastrointestinally (orally or rectally) or parenterally for their systemic effects.

4. Alteration of Distribution: A drug that has been taken into the body by one of the dermatomucosal, gastrointestinal, or parenteral routes may have its rates and routes of distribution from the site of entry modified by another drug or some other chemical. This may occur when the interacting agent modifies transport, binding, or redistribution of the primary drug.

a. Alteration of Drug Transport: The rates and routes of distribution of a drug from its sites of intake to its sites of action, biotransformation, storage and excretion

Drug-drug interactions

Drug-environmental chemical interactions

Drug-food constituent interactions

4. Categories of drug interactions.

may be profoundly influenced by many of the factors considered under transmucosal transport. Three categories of these are particularly important.

(1) Fluid flow: Interactants that alter the flow rate and volume of blood or lymph may alter the rate at which a drug is moved from one area of the body to another. Interactants in this category include cardiac stimulants, diuretics, hypotensives, pressor agents, and other cardiovascular drugs.

(2) Physical and biochemical factors: Alteration of the physical and biochemical characteristics of the fluids that transport a drug, or of the tissues which the drug contacts, may appreciably modify the rate at which the drug is distributed throughout the body. Physical factors that affect distribution include, miscibility, solubility, surface tension, and viscosity. Biochemical factors that influence drug distribution are continually being discovered. Connective tissue permeability is enhanced by hyaluronidase which increases the fluidity of the ground substance of connective tissue, and it is reduced by estrogenic hormones, which decrease the permeability of connective tissue. A corresponding increase or decrease in the rate of capillary absorption occurs. Local constriction of small blood vessels by the vasoconstrictor epinephrine when added to local anesthetics appreciably slows drug transport from sites of injection.

Absorption is enhanced by a growing list of drugs. Various glucocorticoids such as cortisone and prednisolone, by decreasing edema and inflammation, increase the rate of subcutaneous absorption and enhance the blood levels of parenteral medications. Antihistamines, by blocking edema-producing histamine, also tend to improve absorption. And diuretics, by reducing edema in hyperhydrated patients, improve the flow of fluids from the extravascular toward the intravascular spaces, and thus improve absorption.

(3) Transmembranal transport: The extent and rate of transport of a drug across the various membranes separating the fluid compartments of the body are governed by the characteristics of the membranes and the drug, its concentration, the compartment volumes, and various physicochemical and electrochemical driving forces. These forces include such gradients across the membranes as those produced by differentials in electrical potential, hydrodynamic pressure, osmotic pressure, and pH. Any alteration of these characteristics, concentrations, volumes, or driving forces by an interactant may significantly increase or decrease drug transport across the walls of the cardiovascular and lymphatic vessels; across the semipermeable membranes covering organs, tissues, and cells; across the placental, blood-brain, and blood-cerebrospinal fluid barriers; and across other enclosing membranes.

Increased transport of drugs across the placental, blood-brain, or other protective barriers may possibly create serious problems such as fetal and neonatal abnormalities or undesirable effects on the brain. Although drug interaction theory is still imperfectly developed, enough information is available to permit physicians to visualize potential hazards that can be created when an interactant produces acidosis, edema, hypertension, or otherwise affects pH, compartment volumes, blood flow, and the other factors that modify transmembranal transport.

b. Alteration of Drug Binding: When drugs are bound to proteins and other constituents of the body, three effects may

occur. In rare instances, they function as haptens and combine with specific proteins to initiate hypersensitivity reactions. Usually, active drugs attach to specific receptor sites and initiate drug action. This is discussed later under "Modification of Action at Receptor Sites." Finally, drugs may become inactivated in direct proportion to the percentage of drug bound to inactive receptor sites such as those on serum proteins.

An extremely important interaction is displacement of a drug from its protein binding sites in the blood, lymph and tissues by another agent. In general, the more acidic the agent, the greater is its capacity to displace drugs from these sites. However, basic drugs are sometimes displacers and the extent of any drug binding is affected by such factors as pH, inherent affinities and temperature.

Since displacement converts a drug from the inactive to the active state, its potency and toxicity are both increased, and it is also likely to be redistributed into various compartments of the body. The increases in potency and toxicity may be considerable when an interactant displaces even a small amount of a highly bound drug. When an acidic drug like indomethacin or phenylbutazone displaces only 2% of bishydroxycoumarin that is 99% bound, the acidic drug increases the activity of the anticoagulant three-fold and may by this means induce severe hemorrhage.[235]

Displacement interactions create many hazardous situations. Clofibrate, by potentiating thyroxine, may induce a hyperthyroid state; ethacrynic acid, by potentiating oral antidiabetics, may induce hypoglycemic shock; sulfonamides, by potentiating methotrexate, may cause serious toxic reactions. In the event of large doses of interacting drugs, or in susceptible patients, such combinations may be lethal.

5. Modification of Action at Receptors: An interactant may potentiate the intensity of the action of a drug at its receptors by three general mechanisms: (a) increasing its concentration at its receptors, (b) increasing its reactivity at its receptors, and (c) altering the concentration of an endogenous agent at its receptors.

a. Increasing Drug Concentration at its Receptors: There are at least three ways of doing this. Displacement of the drug from its inactive binding sites such as those on serum protein and redistribution of the active drug to its receptors is a common means of potentiation and examples were explained earlier. Preventing the drug from binding to inactive receptors and blocking the action of an enzyme that destroys the drug also produce the same effect. Thus, cholinesterase inhibitors such as edrophonium, neostigmine, and organophosphorus nerve gases and insecticides potentiate the miotic and other cholinergic actions of acetylcholine. Monoamine oxidase (MAO) inhibitors potentiate the hypertensive action of norepinephrine and its releasers such as dextroamphetamine and tyramine. These enzyme inhibitors, by preserving the active agent at its receptors, maintain its concentration and prolong its action.

b. Increasing Drug Reactivity at its Receptors: Apparently, thyroid replacement therapy such as dextrothyroxine and certain anabolic agents like methandrostenolone and norethandrolone potentiate anticoagulants like warfarin by increasing the affinity of the drug for its receptors. Increasing the sensitivity of the receptors to the action of a drug has the same effect.

c. Altering the Concentration of an Endogenous Agent at its Receptors: Inter-

actants may modify the synthesis, release, or uptake, (transport) of a number of active endogenous agents and thereby affect the action of drugs at their receptors.

(1) Synthesis: Apparently, thyroid replacement therapy may inhibit the synthesis and thereby reduce the blood levels of prothrombin and the clotting factors VII, IX and X, and tends to potentiate the anticoagulant action of drugs like warfarin. The synthesis of a false nerve transmitter may create problems for the patient. Thus formation of α-methylnorepinephrine from α-methyldopa blocks tyrosine hydroxylase and leads to a depletion of norepinephrine (NE), and this increases the risk of vascular collapse during surgery under a general anesthetic.

(2) Release: The release of excessive quantities of NE from the terminals of adrenergic neurons is a hazardous event that may be brought about by interactions. Administration of two NE releasers simultaneously can induce a hypertensive crisis. Yet recogition of this possibility is not always easy. A patient receiving the NE releaser amphetamine for narcolepsy may consume large quantities of a ripe cheese containing tyramine which is also a releaser of NE. The resulting hypertension can be lethal. One physician may prescribe amphetamine as an appetite suppressant for an obese patient and another physician, unaware of the other therapy, may prescribe an MAO inhibitor like pargyline as an antihypertensive for the same patient. Excessive quantities of released NE are then not removed by the usual enzyme activity and once again the resulting hypertension can be lethal.

(3) Uptake: Interactants may potentiate drugs at receptor sites by blocking certain transport mechanisms. Some tricyclic antidepressants, chlorpromazine, cocaine, and ouabain, block the active transport (uptake) of NE into the cytoplasm of adrenergic nerve terminals, thereby tending to potentiate the responses to adrenergic impulses and and by injected pressor agents like epinephrine and levarterenol.

Interactants may potentiate drugs by causing endogenous agents to be transported from storage sites. Indirectly acting sympathomimetic amines like amphetamine, ephedrine, mephentermine and tyramine, by displacing NE from its cytoplasmic pools into the extracellular fluid which surrounds both the adrenergic neuronal terminals and the effector cells, act as pressor agents. Concomitant use with tricyclic antidepressants with the mechanisms just described may therefore be hazardous because of the enhanced pressor effect.

6. Modification of Biotransformation: Man reacts against the introduction of a foreign chemical such as a drug into his body by excreting it unchanged as rapidly as possible or by marshalling various metabolizing enzymes to convert it into fragments or conjugates that can be readily eliminated by these means at a speed that permits drug action to occur without excessive or prolonged toxicity.

However, interactants that stimulate (induce) drug metabolizing enzymes or inhibit them may modify the rates of the various metabolic processes so that undesirable effects occur. Depending on the circumstances, the toxicity of a drug may be increased either by enzyme induction or by enzyme inhibition.

a. Enzyme Induction: The activity of the hepatic microsomal enzymes that metabolize drugs may be enhanced by hundreds of agents including some common ones

like alcohol, barbiturates, and certain analgesics, antihistamines, sedatives and tranquilizers. Phenobarbital alone stimulates the metabolism of scores of drugs including some very important ones like digitoxin and oral anticoagulants. Practically every prescriber of medication is alert to the potential for hemorrhage when phenobarbital is withdrawn from a patient who has been receiving an oral anticoagulant concomitantly.[57, 282]

Usually, enzyme induction decreases the intensity of drug effects because it accelerates the conversion of drugs into less active metabolites. However, it can increase the toxicity of a drug like cyclophosphamide which is converted in the body from the inactive form in which it is administered into an active antineoplastic metabolite.

b. Enzyme Inhibition: The activity of the drug metabolizing enzymes may be inhibited by a rapidly growing list of agents, including some widely used drugs like anabolic agents, anticholinesterases, monoamine oxidase inhibitors, oral anticoagulants, antidiabetic and contraceptives.

Hazardous situations may arise when the blood levels of toxic drugs are elevated by enzyme inhibition. Thus an adverse interaction may occur when the metabolism of an oral antidiabetic like tolbutamide is inhibited by bishyhydroxycoumarin, phenylbutazone or sulfaphenazole. Or, when the metabolism of an oral anticoagulant like sodium warfarin is inhibited by *p*-aminosalicylic acid, methylphenidate, or tranylcypromine.[122,281]

7. Alteration of Excretion: Theoretically, drug interactions may alter the rate of excretion of drugs via not only the urinary route but also any of the other routes (biliary, fecal, lacrimal, mammary, perspiratory, respiratory, salivary, etc).

Any interactant that affects the rates of glomerular filtration, tubular secretion, or active or passive tubular reabsorption of any given drug and its metabolites obviously modifies its urinary excretion rate. Its blood concentration may be elevated to toxic levels if it is an acidic drug like a sulfonamide, a barbiturate or phenylbutazone, and the urine is acidified. Or, if it is an alkaline drug like an amphetamine, meperidine or quinidine, and the urine is alkalinized.

Its rate of filtration and tubular secretion and consequently its blood levels may be modified by cardiovascular drugs that alter blood flow and pressure, by agents that damage glomerular functioning, or by anticholinergics and other drugs that set up back pressure from urinary retention.

8. Disturbance of Water and Electrolyte Balance: Interactants may affect the action of another drug by producing imbalance of water and electrolytes (Ca^{++}, Cl^{-}, K^{+}, Na^{+} HCO_3^{-}, and certain organic ions) in the body. Drugs that produce such imbalance may induce edema or water depletion, hyperkalemia or hypokalemia, hypernatremia or hyponatremia, metabolic acidosis, and related conditions. These imbalances, which are caused by faulty absorption, distribution, excretion, or ventilation, can sometimes create hazardous situations with some medications. A few typical examples will be given.

A drug that causes excessive diuresis, catharsis, perspiration or vomiting may significantly lower the blood pressure because of fluid and sodium loss. Accordingly, problems may arise with hypotensives and other cardiovascular medications. A drug that produces nephrotoxic effects may not only cause loss of water and sodium but also the retention of certain drugs, and

this may produce toxic levels in the blood and tissues. In the presence of drug-induced oliguria resulting from water depletion or kidney damage, any drug may become very toxic. Sodium depletion alone may increase the toxicity of some drugs. Thus, diuretics are contraindicated with lithium carbonate because both types of medication may inhibit tubular reabsorption of sodium and cause its depletion.

Adrenocorticotropic hormone (ACTH), cathartics, corticosteroids, diuretics (carbonic anhydrase inhibitors, ethacrynic acid, furosemide, mercurials, thiazides), outdated tetracyclines (epiahydrotetracycline), and nephrotoxic drugs that cause acute tubular necrosis or renal tubular acidosis may induce a potassium deficiency. Combined use of certain diuretics and corticosteroids is particularly likely to cause a severe loss of potassium. Such loss may cause arrhythmias in cardiac patients receiving digitalis because lowered potassium levels sensitize the heart to the action of the drug. Sometimes more than a third of patients taking diuretics with digitalis experience adverse reactions. This type of interaction apparently caused the death of a number of patients who were given irrational combinations of drugs to control weight. Several antiobesity medications, which were widely used until condemned,contained various combinations of amphetamine, barbiturates, digitalis, diuretics and thyroid. In the adversely affected patients, severe hypokalemia may have been caused not only by reduced intake of potassium due to the anorexigenic action of amphetamine, but also loss of potassium due to the cathartic and diuretic actions of the other ingredients. This considerably increased the toxicity of the digitalis.

Severe, hazardous hyperkalemia may be produced by the combined use of several potassium-conserving diuretics such as amiloride, spironolactone, and triamterene. Excessive potassium levels, in addition to toxic actions, also tend to diminish the effectiveness of digitalis in cardiac patients, and can be serious in a patient with congestive heart failure, renal failure, or uncontrolled diabetes mellitus.

Elevation of calcium levels above normal also increases the toxicity of digitalis. Injections of calcium salts intravenously into patients receiving the cardiotonic drug have caused several deaths, although one author does not agree that hyperkalemia was responsible.

Categories of Drug Interactions

Any one of the eight mechanisms described for the preceding three categories of drug interactions may be used to explain how an injury to a patient and even death may occur. These mechanisms are now widely recognized. Nevertheless, it is extremely difficult to keep every physician aware of all potential interactions; so many are constantly being published. It is easy to understand how masses of information on drug interactions remained hidden in the literature for decades, unused. Only in recent years have attempts been made to compile quick reference tables.

Time after time, three main categories of interactions have occurred in ambulatory as well as bedridden patients. We now realize that a drug may interact with (1) another drug, (2) another chemical in the environment, or (3) a component of the diet (Fig 4).

1. Drug-Drug Interactions: Drug-drug interactions are probably the ones most frequently encountered. They may occur when several physicians unknowingly prescribe medications for the same patient (poly-

medicine) or when one physician prescribes several medications for the same patient (polypharmacy). They often occur when prescribed drugs are taken with nonprescription drugs used for self-medication.

Some polymedical and polypharmacal situations are appalling. As many as 20 or 30 different medications have been prescribed within a few months for the same patient.‡ Thousands of interactions may theoretically occur when this many drugs are used concurrently.

The number of adverse drug interactions that may potentially occur among medications that are prescribed and those that are freely purchased over-the-counter appears to be astronomical when all possible combinations are considered. Analgesics containing aspirin, phenacetin, etc; sleeping tablets containing pyrilamine, scopolamine, etc; cold and cough remedies containing antihistamines, antitussives, decongestants, etc; and other types of medications containing potent drugs are readily available without prescription. A patient may be taking several of these when he receives additional medication from his physician.

Drug-drug interactions may be particularly hazardous for certain vulnerable individuals, eg, those receiving anesthetics, anticoagulants, antidepressants, antidiabetics, corticosteroids, hypnotics, monoamine oxidase inhibitors, and other drugs with powerful physiological actions. The danger may be markedly increased if the patient experiences the effects of a severe drug interaction while engaging in a potentially hazardous task such as piloting an aircraft, driving an automobile, or operating machinery.

2. Drug-Environmental Chemical Interactions: Interactions between drugs and environmental chemicals occur much more frequently than is commonly realized. Depending on the circumstances, either induction or inhibition of microsomal drug metabolizing enzymes by pollutants in the atmosphere can inhibit or potentiate medication. Thus an inducer, such as the insecticide chlordane which stimulates drug metabolism, inhibits the oral anticoagulant bishydroxycoumarin that forms less active metabolites, but it potentiates the antineoplastic cyclophosphamide that forms more active metabolites. Enzyme inhibitors have the opposite effects. Sometime the duration of the effects on the microsomal enzymes are astonishing. Thus, a single exposure to chlordane may stimulate the metabolism of some drugs for several months.

Tobacco smoke, commonly inhaled by the suffering nonsmoker as well as by the polluter himself, increases the dosage requirements of some drugs through the enzyme induction caused by its carcinogen, benzpyrene. Most urban dwellers who are subjected to industrial emissions require higher doses of some medications than their suburban neighbors, although the latter may also have their enzymes induced by the benzpyrene produced during charcoal broiling in the back yard.

The vast number of environmental chemicals that may interfere with medication of the patient have never been totally identified and tabulated. They include halogenated hydrocarbons, nitrogen oxides, organic phosphates, polycyclic hydrocarbons, sulfur oxides and many other noxious industrial chemicals and pollutants in the

‡One investigator discovered a patient who received 32 medications during 48 days of hospitalization.[281]

air we breathe, plus numerous drugs such as alkaloids (caffeine, theobromine, theophylline, etc), antimicrobials (neomycin, phenothiazines, sulfonamides, tetracyclines, thiazoles, etc), hormones (cortisone analogs, estrogens, etc) insecticides (chlordane, DDT, Diazinon, Malathion, parathion, TEPP, naphthalene, etc) and sympathomimetics (dopa, tyramine, etc) in the plants and animals we eat. Possibly hundreds of environmental chemicals may modify the actions of certain medications.

3. Drug-Food Constituent Interactions: Interactions between drugs and components of the diet may have serious consequences for the patient. A number of foods contain pressor principles such as dopa in broad bean pods, histamine in some alcoholic beverages, serotonin in bananas, pineapples, and plums, and tyramine in beer, beef liver, Chianti wine, chicken livers, chocolate, fermented products, figs, kippered or pickled herring, meat extracts such as Bovril, strong cheeses such as Brie, cheddar, Camembert and Stilton, yeast extracts such as Marmite, etc. When these pressor principles are present in sufficient concentrations potentiation with MAO inhibitors and certain other drugs may be lethal.

A widely used flavoring agent, licorice, may interact with antihypertensives, diuretics, and other cardiovascular drugs. Apparently it causes pseudoaldosteronism when ingested in large quantities and the resulting electrolyte imbalance may induce edema and hypertension.

Vitamin deficiencies and excesses may modify the action of a large number of drugs. The interactions between vitamin B complex and anticoagulants; vitamin C and a long list of drugs including anticoagulants, atropine, barbiturates, quinidine, salicylates and sulfonamides; vitamin K and many antibiotics and anticoagulants; pyridoxine and isoniazid; mineral oil and fat-soluble vitamins and vitamin B_{12} and a long list of drugs including alcohol, chloramphenicol, colchicine, neomycin, PAS, and pyrimethamine are all well documented.

These are just a few examples of well established drug-food interactions. Among the colors, flavors, preservatives, softeners, and scores of other dietary components may be many items that will eventually be shown to interfere with drug absorption, transport, metabolism, action, or excretion.

Beneficial Drug Interactions

Not all drug combinations are so hazardous that they must be avoided. Some drug interactions are actually beneficial. For instance, the direct action between strongly basic protamine and acidic heparin provides an antidotal effect against excessive dosages of the anticoagulant. Ammonium chloride potentiates mercurial diuretics and prolongs their usefulness. The beneficial use of an antiparkinsonism drug with certain phenothiazines to control extrapyramidal side effects is well known, as is the use of the tranquilizer to cancel the CNS effects of certain anorexigenics.

Such beneficial interactions can only be utilized, however, if other possibly harmful interactions are avoided. Probenecid has long been used to enhance the antibacterial activity of penicillins. However, it also potentiates the hypoglycemic activity of oral antidiabetics like acetohexamide, the uricosuric action of sulfinpyrazone, and elevates the blood levels of many other drugs including the *p*-amino derivatives of benzoic, hippuric and salicylic acids, some oral anticoagulants, indomethacin and

various contrast media. Spironolactone, a potassium-conserving diuretic, may be used in digitalis toxicity and also with thiazide and mercurial diuretics to counteract their potassium depleting effect. However, electrolyte balance must be closely monitored since excessive dosage of spironolactone may induce hyperkalemia, decrease the patient's sensitivity to digitalis, and interfere with digitalization. A combination is valuable when it produces a greater margin of safety, more appropriate onset or duration of action, lowered toxicity, or enhanced potency with diminished side effects. The mechanisms of the drug actions involved should be understood, however, in order to avoid medical and legal problems.

Magnitude of the Problem

At times the problem of coping with the professional and legal sequelae of drug interactions appears to be insurmountable. No physician knowingly prescribes a medication that will harm his patient. But, he can never be fully aware of every component of the diet, every chemical in the environment, and every other drug that will contact the patient while he is taking the prescribed medication. He must also remember that medications taken by his patient may interfere with the clinical laboratory tests he orders and prevent proper diagnosis.[160] A definite probability that an undesirable drug interaction will occur often exists. Thoughtfully written prescriptions for meticulously examined patients have unfortunately been lethal. But, all any physician can do is to try to keep up with the rapidly evolving drug interaction information, provide his patient with every warning that appears to be pertinent at the time, and enter in the patient's records the fact that he gave these warnings.

Solutions to the Problem

What other steps can be taken to avoid the pitfalls of drug interactions? Overwhelming masses of data on the pitfalls of drug therapy are now being rapidly compiled but we still need to provide the prescribing physician with fingertip, immediate, orderly access to precise information pertinent to his drug therapy of his specific patient. Better medical communication is obviously needed. Perhaps the only satisfactory answer is automation of information with electronic computers, whereby both input and retrieval of pertinent data are practically instantaneous. Computerization may provide the only practical solution to the problems of chemotherapy. However, because of the infancy of the new discipline of iatrogenic medicine, its vast body of information on the hazards of medication has barely begun to be organized. Hence, at the present time we can neither provide satisfactory computer input, nor otherwise cope as efficiently as we should with drug interaction problems.

While drug interaction and other information on the hazards of medication is being organized and compiled, not only physicians, but also pharmacists, nurses, and patients must all be alerted to the potential hazards that exist whenever more than one medication is prescribed or administered concomitantly. Also, patients should consult only one family physician and keep him fully informed of all medi-

cations that they purchase with or without a prescription and of prescriptions they receive from specialists. Finally, they should have their prescriptions dispensed in only one pharmacy where their medication records will be completely and accurately kept. On April 1, 1972, New Jersey became the first state in the USA to require by law that patient drug profile records be maintained in all pharmacies for all persons for whom prescriptions are dispensed. Other states are considering similar legislation to protect the patient.

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A copy of the author's extensive reference list will be sent upon request. Write TEXAS MEDICINE, 1801 N Lamar Blvd, Austin, Texas 78701.

Nonproprietary Names and Trade Marks of Medications Mentioned

Acetohexamide – Dymelor
Acetylcholine – Miochol
Acrisorcin – Akrinol
Amiloride – Colectril
Amphetamine – Benzedrine
Bisacodyl – Dulcolax
Bishydroxycoumarin – Dicumarol
Carbamazepine – Tegretol
Chloramphenicol – Chloromycetin
Chlorpromazine – Thorazine
Cholestyramine – Questran
Clofibrate – Atromid-S
Mefenamic Acid – Ponstel
Cyclophosphamide – Cytoxan
Dextroamphetamine – Dexedrine
Dextrothyroxine – Choloxin
Diphenylhydantoin – Dilantin
Disulfiram – Antabuse
Echothiophate Iodide – Phospholine
Edrophonium – Tensilon
Ethacrynic Acid – Edecrin
Fluroxene – Fluoromar
Furosemide – Lasix
Guanethidine – Ismelin
Halothane – Fluothane
Indomethacin – Indocin
Isoproterenol – Isuprel
Kanamycin – Kantrex
Levarterenol – Levophed
Lithium Carbonate – Eskalith, Lithane, Lithonate
Mebutamate – Capla
Meperidine – Demerol
Mephentermine – Wyamine
6-Mercaptopurine – Purinethol
Methandrostenolone – Dianabol
Methicillin – Staphcillin
Methoxyflurane – Penthrane
Methyldopa – Aldomet
Methylphenidate – Ritalin
Nalidixic Acid – NegGram
Neostigmine – Prostigmin
Nitrofurantoin – Furadantin
Norepinephrine – Levophed
Norethandrolone – Nilevar
Oxyphenbutazone – Tandearil
Pargyline – Eutonyl
Phenylbutazone – Butazolidin
Phenylephrine – Neo-Synephrine
Phenyramidol – Analexin
Probenecid – Benemid
Procainamide – Pronestyl
Promethazine – Phenergan
Propoxyphene – Darvon
Propranolol – Inderal
Secobarbital – Seconal
Spironolactone – Aldactone
Sulfaphenazole – Orisul
Sulfinpyrazone – Anturane
Tolbutamide – Orinase
Tranylcypromine – Parnate
Triamterene – Dyrenium
Warfarin – Coumadin

A learning resource center for home or office

Elizabeth A. Smith, PhD

The busy physician's schedule seldom permits the luxury of designating a specific time of day for study. Faced with rapid advances in medicine and the strenuous demands of his practice, the physician may think that it is impossible to keep up. Facts of medicine change, professional training is quickly outdated, and the physician may be left behind. However, the time allowed for continuing education *can be utilized* effectively and efficiently. This article presents information about a relatively new concept in education—the learning resource center, discusses efficient use of available time, and proposes a basic plan for study.

The Learning Resource Center

Establishing a learning resource center in your home or office need not be costly or time-consuming. You may already have all the necessary materials; if so, your only task is to assemble and utilize them. Designate a specific area of your home or office for study. The size of this area, which may range from a few square feet to an entire room, will depend upon your unique needs. It must have a pleasant physical setting—be well-lighted, free from noise, etc. The atmosphere must be conducive to learning. Materials in your learning resource center should consist of publications of the AMA, your state medical journals, specialty journals, frequently used textbooks and reference materials, a dictionary, cassette tapes and any number of additional resource materials. Depending upon your specialty and areas of interest, resource materials such as 35 mm slides, 16 mm films, records, x-rays and videocassettes might also be included. The prototype of a learning resource center* is pictured in Fig 1.

The specific location of materials and audiovisual equipment is given in the legend. This unit was exhibited at the 105th Annual Texas Medical Association meeting in San Antonio, and was awarded third place in the educational institutional group. This resource center is on display in the office of the Division of Continuing Education, the University of Texas Graduate School of Biomedical Sciences at Houston.

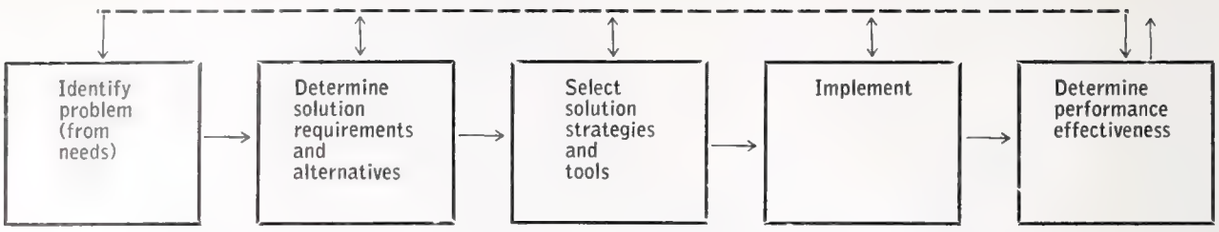
Efficient Use of Available Time

Once your learning center is assembled, you must make a concerned effort to utilize it regularly. There is no optimum time to learn, nor can learning take place on schedule. Priorities can be placed on the types of medical materials to be learned, and available time can be scheduled so that educational goals are achieved. Learning is most efficient when we have a positive attitude toward learning and are highly motivated to learn. To be motivated to learn, we must not only experience problems, but be actively involved in identifying problems and in determining ways to solve them. Certainly, the physician has great internal motivation to learn, as he is continually faced with a wide range of unresolved and perhaps unresolvable medical problems. Kaufman's[1] six-step problem-solving model presented in Fig 2 may be used as a guide for developing a method of study, and also for delineating areas of expertise and areas of weakness. Five steps are within boxes, and the sixth step represented by the dashed line indicates revision as required by

*The Physician's learning resource center was designed and constructed with the assistance of Grant Taylor, MD, Division of Continuing Education, The University of Texas Graduate School of Biomedical Sciences at Houston, the Department of Medical Communications, and the Physical Plant of The University of Texas MD Anderson Hospital and Tumor Institute at Houston.

1. Physician's learning resource center:
1, 3: Stereo speakers
2: Storage for journals, books, etc
4, 5: Pull-out lights
6: AM/FM cassette recorder and tape storage
7: TV monitor
8: X-ray view box
9: Pull-out drawer for 16 mm projector
10: Videocassette recorder (color)
11: Pull-out projector screen
12: Pull-out drawer for 35 mm (2" x 2") slide projector
13-17: Pull-out writing surfaces
18: Lighted tray for viewing and sorting slides and transparencies
19, 21: Storage for films, slides, tapes, books, etc
20: Pull-out controls for turntable or stereo system

2. A six-step problem-solving model for application to education.



performance. By using this model frequently, it will become an unconscious response to problem-solving—a mental habit. Efficiency is increased by using a problem-solving model rather than a trial-and-error or random approach.

Basic Plan for Study

The following should be incorporated into your plan for study:

1. Strive to learn basics, constancies, or principles, as it is impossible to keep up with current trends.
2. Select areas of learning wisely so that they supplement your established areas of expertise.
3. As you study, try to incorporate the following well-known principles of learning[2]: (a) *repetition*—one of the most vital components, as repetition reinforces learning; (b) *association*—ideas experienced together tend to become associated, and are retained for longer periods; (c) *recall*—should be continuously tested for; (d) *"feedback" or knowledge of results*—measures the rate and amount of learning (either through quizzes or other forms of self-testing); (e) *active participation*—complete involvement in the learning process; and (f) *multisensory approaches*—incorporate seeing, hearing and possibly doing.
4. Learn with understanding as the immediate goal. Understanding improves retention of what is learned, and better qualifies the learner to move forward to new learning.
5. After new material is assembled, it is necessary to put the information in proper sequence, interrelate the newly acquired information with previous knowledge, and then interpret this information from the standpoint of present and future problems which may be experienced.
6. Integrate material learned from all media (reading, courses, conferences, films, etc).
7. Be a decisive note-taker, as these notes which may be gleaned from any number of sources may be invaluable future sources of information.
8. Follow-up on referrals, as learning from the physician to whom you referred a patient provides invaluable feedback.
9. Have improved patient care as your ultimate goal of learning.
10. Never refuse an opportunity to teach, or to serve as an educational resource person.

The concept of learning and the significance of motivation are more important than is the concept of the resource center. The high-level decision-making processes, which precede the process of selection and the physical arrangement of resource materials, will serve as valuable learning experiences. Once the learning resource center has been assembled, it must be used as frequently as time permits, for the physician must remain a lifelong student.[3] Physicians throughout the world are well aware of the need for continuous education which is directly related to the daily care of patients. Development and use of one's own resource center will definitely facilitate learning.

References

1. Kaufman RA: A possible integrative model for the systematic and measurable improvement of education. Amer Psychol 26:250-256, 1971.
2. Munn NL: Psychology. Boston, Houghton Mifflin Company, 1966.
3. Brown CR, Henry SM: Mandatory continuing education. JAMA 213:1660-1668, 1970.

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Indications: Lomotil is effective as adjunctive therapy in the management of diarrhea.

Contraindications: In children less than 2 years, due to the decreased safety margin in younger age groups, and in patients who are jaundiced or hypersensitive to diphenoxylate HCl or atropine.

Warnings: Use with caution in young children, because of variable response, and with extreme caution in patients with cirrhosis and other advanced hepatic disease or abnormal liver function tests, because of possible hepatic coma. Diphenoxylate HCl may potentiate the action of barbiturates, tranquilizers and alcohol. In theory, the concurrent use with monoamine oxidase inhibitors could precipitate hypertensive crisis.

Usage in pregnancy: Weigh the potential benefits against possible risks before using during pregnancy, lactation or in women of childbearing age. Diphenoxylate HCl and atropine are secreted in the breast milk of nursing mothers.

Precautions: Addiction (dependency) to diphenoxylate HCl is theoretically possible at high dosage. Do not exceed recommended dosages. Administer with caution to patients receiving addicting drugs or known to be addiction prone or having a history of drug abuse. The subtherapeutic amount of atropine is added to discourage deliberate overdosage; strictly observe contraindications, warnings and precautions for atropine; use with caution in children since signs of atropinism may occur even with the recommended dosage.

Adverse reactions: Atropine effects include dryness of skin and mucous membranes, flushing and urinary retention. Other side effects with Lomotil include nausea, sedation, vomiting, swelling of the gums, abdominal discomfort, respiratory depression, numbness of the extremities, headache, dizziness, depression, malaise, drowsiness, coma, lethargy,

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anorexia, restlessness, euphoria, pruritus, angioneurotic edema, giant urticaria and paralytic ileus.

Dosage and administration: ***Lomotil is contraindicated in children less than 2 years old.*** Use only Lomotil liquid for children 2 to 12 years old. For ages 2 to 5 years, 4 ml. (2 mg.) t.i.d.; 5 to 8 years, 4 ml. (2 mg.) q.i.d.; 8 to 12 years, 4 ml. (2 mg.) 5 times daily; adults, two tablets (5 mg.) t.i.d. to two tablets (5 mg.) q.i.d. or two regular teaspoonfuls (10 ml., 5 mg.) q.i.d. Maintenance dosage may be as low as one fourth of the initial dosage. Make downward dosage adjustment as soon as initial symptoms are controlled.

Overdosage: Keep the medication out of the reach of children since accidental overdosage may cause severe, even fatal, respiratory depression. Signs of overdosage include flushing, lethargy or coma, hypotonic reflexes, nystagmus, pinpoint pupils, tachycardia and respiratory depression which may occur 12 to 30 hours after overdose. Evacuate stomach by lavage, establish a patent airway and, when necessary, assist respiration mechanically. Use a narcotic antagonist in severe respiratory depression. Observation should extend over at least 48 hours.

Dosage forms: Tablets, 2.5 mg. of diphenoxylate HCl with 0.025 mg. of atropine sulfate. *Liquid,* 2.5 mg. of diphenoxylate HCl and 0.025 mg. of atropine sulfate per 5 ml. A plastic dropper calibrated in increments of ½ ml. (total capacity, 2 ml.) accompanies each 2-oz. bottle of Lomotil liquid.

Dosage forms: Tablets, 2.5 mg. of diphenoxylate HCl with 0.025 mg. of atropine sulfate. *Liquid,* 2.5 mg. of diphenoxylate HCl and 0.025 mg. of atropine sulfate per 5 ml. A plastic dropper calibrated in increments of ½ ml. (total capacity, 2 ml.) accompanies each 2-oz. bottle of Lomotil liquid.

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Clinical Data:
Patient: 47-year-old male.
Diagnosis: Severe pyoderma, left hand.
Culture: *Staphylococcus aureus, coagulase* positive and sensitive to MINOCIN.
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Concomitant therapy: None.†

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Warnings: The use of tetracyclines during tooth development (last half of pregnancy, infancy and childhood to the age of 8 years) may cause permanent discoloration of the teeth (yellow-gray-brown). This is more common during long-term use but has been observed following repeated short-term courses. Enamel hypoplasia has also been reported. Tetracyclines, therefore, should not be used in this age group unless other drugs are not likely to be effective or are contraindicated. In renal impairment, usual doses may lead to excessive accumulation and liver toxicity. Under such conditions, use lower doses, and, in prolonged therapy, determine serum levels. Photosensitivity manifested by an exaggerated sunburn reaction has been observed in some individuals taking tetracyclines. Advise patients apt to be exposed to direct sunlight or ultraviolet light that such reaction can occur, and discontinue treatment at first evidence of skin erythema. Studies to date indicate that photosensitivity does not occur with MINOCIN Minocycline HCl. In patients with significantly impaired renal function, the antianabolic action of tetracycline may cause an increase in BUN, leading to azotemia, hyperphosphatemia, and acidosis. Pregnancy: In animal studies, tetracyclines cross the placenta, are found in fetal tissues, and can have toxic effects on the developing fetus (often related to retardation of skeletal development). Embryotoxicity has been noted in animals treated early in pregnancy. Safety of use during human pregnancy has not been established. *Newborns, infants and children:* All tetracyclines form a stable calcium complex in any bone-forming tissue. Prematures, given oral doses of 25 mg./kg. every 6 hours, demonstrated a decrease in fibula growth rate, reversible when drug was discontinued. Tetracyclines are present in the milk of lactating women who are taking a drug of this class. Safe use has not been established in children under 13.
Precautions: Use may result in overgrowth of nonsusceptible organisms, including fungi. If superinfection occurs, institute appropriate therapy. In venereal diseases when coexistent syphilis is suspected, darkfield examination should be done before treatment is started and blood serology repeated monthly for at least four months. Patients on anticoagulant therapy may require downward adjustment of such dosage. Test for organ system dysfunction (e.g., renal, hepatic and hemopoietic) in long-term use. Treat all Group A beta hemolytic streptococcal infections for at least 10 days. Avoid giving tetracycline in conjunction with penicillin.
Adverse Reactions: (Common to all tetracyclines, including MINOCIN) GI: (with both oral and parenteral use): anorexia, nausea, light-headedness, vomiting, diarrhea, glossitis, dysphagia, enterocolitis, inflammatory lesions (with monilial overgrowth) in anogenital region. *Skin:* maculopapular and erythematous rashes. Exfoliative dermatitis (uncommon). Photosensitivity is discussed above ("Warnings"). *Renal toxicity:* rise in BUN, dose-related (see "Warnings"). *Hypersensitivity reactions:* urticaria, angioneurotic edema, anaphylaxis, anaphylactoid purpura, pericarditis, exacerbation of systemic lupus erythematosus. When given in high doses, tetracyclines may produce brown-black microscopic discoloration of thyroid glands; no abnormalities of thyroid function studies are known to occur. In young infants, bulging fontanels have been reported following full therapeutic dosage, disappearing rapidly when drug was discontinued. *Blood:* hemolytic anemia, thrombocytopenia, neutropenia, eosinophilia.
NOTE: *Concomitant therapy:* Antacids containing aluminum, calcium, or magnesium impair absorption; do not give to patients taking oral minocycline. Studies to date indicate that MINOCIN is not notably influenced by foods and dairy products.

***Indicated in infections due to susceptible organisms. Culture and sensitivity testing recommended. Tetracyclines are not the drugs of choice in the treatment of any staphylococcal infection.**
†Case Report, Clinical Investigation Department, Lederle Laboratories.

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(and the infection)*

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* **Indication:** Based on a review of this drug by the National Academy of Sciences—National Research Council and/or other information, FDA has classified the indication as follows:
"Probably" effective: For the treatment of vulvovaginal candidiasis.
Final classification of the less-than-effective indications requires further investigation.

Contraindications: None known. **Precautions:** Cases of sensitization and irritation have been reported. When noted the drug should be discontinued. **Dosage:** One applicatorful intravaginally twice daily for a period of 14 days. Course of therapy may be repeated if necessary.

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Early diagnosis of acoustic tumors

H. Edward Maddox, III, MD

The varied early symptoms of small acoustic neuromas is stressed in this article to alert the physician. Surgical removal of the small (less than 1 cm) and moderate (less than 3 cm) tumors can thus be carried out through the lateral or mastoid approach. Advantages of this route are preservation of the facial nerve and a lessening of morbidity when compared with the old, classic suboccipital craniotomy.

During the past few years I have seen many cases of acoustic neuromas, both in my own practice and among referrals from other otolaryngologists, and have performed translabyrinthine removal in 54 cases.

I had never diagnosed acoustic tumor in my practice until 1965, when I attended Dr. William House's symposium on the subject in Los Angeles. Returning to Houston, I found five cases in four months. Obviously, I had been observing some lethal forms of "Meniere's disease" and "sudden deafness." All of these tumors were moderate to large. I did not return with any new audiometric test, or with that relatively new gadget called the electronystagmograph. The first five cases were diagnosed with the same tools I had had before, except for one, which was the additional knowledge of the wide range of symptoms caused by this tumor and the accompanying high index of suspicion.

Important Early Findings

History: The history is often unrewarding and even misleading in patients with acoustic tumors because of the wide variation in growth rates and initial location of the tumors in the internal auditory canal.

Hearing Loss: Close questioning generally will elicit a definite history of cochlear nerve involvement. Do not be misled by the duration of the hearing loss, for in many well-documented cases, the patients have had some deafness for 20 years. The classic audiometric history of neuromas is described as a slowly progressive unilateral hearing loss with poor speech discrimination. Here again, the exception may be the rule more often than not. Some patients will deny a hearing loss unless one pursues the point.

Case Report: A 34-year-old man was seen because of "fainting spells." He had one on the day of admission to the hospital, and one three weeks earlier with no whirling sensation. He had some tinnitus in his right ear but denied any hearing loss. X-rays of the skull had shown an enlargement in the right internal auditory canal. Another neurosurgeon did not believe that this was significant. The patient's audiogram showed a 15 db loss in the left ear and a 33 db loss in the right ear, with normal speech discrimination. The advanced audiometric test battery showed cochlear abnormality. The electronystagmogram indicated spontaneous nystagmus, left, beating and right vestibular weakness (minimal, ie, 20%). The posterior fossa myelogram showed a 3 cm tumor, and a cerebrospinal fluid protein level of 160 mg/100 ml.

Most tumors present with one of three possible audiometric patterns. We should keep in mind all the possible audiometric curves that may occur.

1. The typical pattern is a progressive unilateral hearing loss with a subsequent development of poor speech discrimination and retrocochlear advanced battery.

Case Report: A 38-year-old woman had a progressive hearing loss of several years' duration in the left ear. The electronystagmogram done in April, 1966, showed spontaneous nystagmus, right, beating, with a

total loss of vestibular function on the left. Standard x-rays of the internal auditory canals were normal, but the myelogram showed a moderate sized acoustic tumor at the left cerebellopontine angle.

Tinnitus may precede deafness by several months in 50% of the cases. Most tumors grow slowly, and in all cases, audiometric progression can be observed if the patient is seen regularly, which is an important point.

2. Sudden hearing loss will occur with some frequency in patients with tumors, but, unless the initial loss is total, it will increase progressively. On the other hand, patients whose sudden hearing loss is not related to tumor will remain stable or tend to improve.

Case Report: A 51-year-old woman had typical sudden deafness with tinnitus. Five months prior to her visit to us, she was seen by her otolaryngologist. A unilateral loss of 45 db with a 72% speech discrimination was found in the left ear. The results of a caloric test with ice water were normal.

Her initial visit was prompted by persistent deafness. There was a 55 db hearing loss with poor discrimination for speech. The advanced testing showed retrocochlear involvement. The vestibular tests revealed spontaneous nystagmus, left, beating. Results of bithermal caloric tests and tomography were normal. A myelogram showed a 2.5 cm acoustic tumor on the left.

The exact percentage of tumor patients showing this precipitous drop in hearing is unimportant. The fact that it does occur is significant. This sudden loss of cochlear function has been explained on a basis of vascular occlusion by the expanding tumor.

3. The patient with sensorineural bilateral hearing loss throws one off guard. These patients come to the otologist because of their deafness. When they are told that no surgical procedure will benefit them, they are quite disappointed and not the least bit interested in further cochlear or vestibular testing. When there is a difference in the pure tone loss in the two ears, or a poorer discrimination score in one ear, further evaluation should be done.

Case Report: A 20-year-old white woman had a history of fluctuating hearing in both ears for three years, undocumented, with attacks of whirling vertigo and vomiting. Her initial audiogram showed "U" curves with good speech discrimination. The myelogram indicated the presence of bilateral tumors.

Dizziness: Most eighth-nerve tumors arise from the vestibular nerve (usually the superior division). Because of the slow growth of the tumor, compensation occurs and vertigo as such is not a common symptom. The majority of patients do not complain of dizziness, although close questioning may reveal some minor episode in the past (32%). As the tumor enlarges and compresses the contents of the posterior cranial fossa, all the symptoms and signs of cerebellar compression and obstructive hydrocephalus will become manifest. In a significant number of tumor patients (24%), episodic, whirling vertigo is the main complaint, and some will present with classic vestibular neuronitis or vascular accident. Recurrent vertigo, such as is seen in hydrops, with its accompanying aural pressure and fluctuating hearing is rare.

Case Report: A 58-year-old man was in apparent good health until April 25, 1971, when he was seen in the emergency room because of a sudden onset of whirling vertigo and vomiting. This was accompanied by buzzing tinnitus in his left ear and total loss of hearing. The house physician who first saw the patient thought that there was

an early facial paralysis on the left as well. When seen by us two weeks later, the patient was still having positional vertigo. He had a total loss of vestibular and cochlear function on the left. Skull x-rays were normal, but tomography showed an enlargement of his left internal auditory canal. There was no facial weakness. A posterior fossa myelogram revealed a cerebellopontine angle mass on the left. Translabyrinthine exploration revealed a 2 cm acoustic tumor. The patient continues to deny any previous hearing loss.

It seems paradoxical that a tumor which causes so few vestibular symptoms generally causes such profound alteration in the results of various vestibular tests. It is our belief that aside from the pure tone audiogram, vestibular testing and especially the electronystagmogram is the most important diagnostic aid available in the tumor work-up. Our decision as to when to do a myelogram or other tests usually is determined by these findings.

All of our cases have shown some vestibular abnormalities on testing. These consisted of spontaneous nystagmus or positional nystagmus, and/or a unilateral weakness. The bithermal caloric test showed unilateral weakness in 92% of the cases. The slow phase velocity was the most reliable factor. The duration of the response failed to identify a unilateral weakness in 32% of patients.

An occasional patient will fail to show any canal paresis. When a large tumor is present, one would postulate its origin from the inferior vestibular nerve rather than the superior. (We are testing the superior vestibular nerve in the standard caloric.)

Bilateral acoustic tumors present a difficult interpretation in vestibular testing. Obviously the basic premise in reporting these tests by percent is a comparison of the two ears. If a patient has bilateral tumors, we are in trouble, although at some time, the larger of the two tumors will, theoretically, show a greater caloric weakness. A comparison of individual tracings on a suspected ear several months apart can be helpful where bilateral involvement is possible.

Case Report: A 20-year-old girl with bilateral tumors had the following results of testing: The initial electronystagmogram (1968) was normal except for a low intensity response. There was no spontaneous nystagmus. A subsequent electronystagmogram two years later revealed a spontaneous nystagmus, right, beating and left vestibular weakness of 45%. The larger (3 cm) tumor was the left side.

Other Cranial Nerve Involvement: Trigeminal Nerve: Numbness of the face over the trigeminal distribution can be the presenting symptom in some acoustic patients, or possibly only a corneal anesthesia on the affected side will be evident.

Case Report: A 19-year-old white woman had a two-month history of "numbness" of the right side of her face. She had seen her dentist about this, but his evaluation of her teeth was normal. She had a sudden hearing loss in the right ear nine months earlier, but recovered under "nicotinic acid regimen." No vestibular examination was done at the time of the hearing loss. In our work-up, the audiometric testing revealed only a mild, 15 db, low-frequency hearing loss with 100% discrimination. The advanced audiometric test battery showed cochlear abnormality. The x-rays of the internal auditory meatus were read as normal. The electronystagmogram revealed a spontaneous nystagmus, left, beating and a severe right vestibular weakness. The patient had no history of vertigo. The posterior fossa myelogram showed a large tumor.

This tumor was completely removed by the lateral, translabyrinthine approach. There was a large mass of tumor in the cerebellopontine angle, but little in the internal auditory canal. This might explain the predominance of trigeminal symptoms and the relative lack of cochlear signs.

Facial Nerve: An occasional tumor may present as a Bell's palsy. Here again, the unusual (lateral) location of the tumor in the internal auditory canal may explain the symptom complex.

Case Report: A 15-year-old white girl had no complaints until three weeks before her initial visit to our office, at which time she noticed a slight decrease in the hearing in her left ear while talking on the telephone. This was a sudden loss. Several days prior to her visit she and her mother noticed a weakness in the left side of her face. This was the presenting complaint. Findings in the laboratory included a 20 db sensorineural hearing loss, mostly in the low frequencies, with phonetically balanced maximum of 48%. The electronystagmogram showed 50% left vestibular weakness with spontaneous nystagmus, right, beating. The x-rays were unusual; they showed erosion of the petrous tip. Posterior fossa myelography revealed the true nature of the lesion: a 2.5 cm acoustic tumor located laterally in the canal, with bony destruction in the anterior wall and the roof of the internal auditory canal, thus the presenting sign of facial paralysis.

The moral of this story is, "Always obtain temporal bone x-rays with patients having Bell's palsy."

Signs Suggesting Cerebellar Tumors: This is not common, but alerts one to the possibilities:

Case Report: A 60-year-old white postmistress had noticed a progressive inability to use her right hand in putting letters in postal boxes for six months. During the past month, she had difficulty walking because of weakness of the right leg and a tendency to fall to the right. The patient had always been in excellent health; however, she had lost her hearing in her right ear 20 years earlier following a bout with the "flu." Also, there was a slight ringing in the ear which persisted. Testing revealed total hearing loss on the right side with no vestibular function and a spontaneous nystagmus, left, beating. There was no other cranial nerve involvement. The impression was that of a right cerebellar hemisphere lesion. Air studies showed a shift of the ventricle, but were inconclusive. Posterior fossa pantopaque studies revealed the true nature of the tumor.

Work-Up On The Patient in Summary

As can be seen from these cases with various early presenting symptoms, the work-up of patients must be complete if a diagnosis is to be made at a reasonably early stage.

1. Obviously the earliest measurable finding in neuromas is the pure tone hearing loss with or without tinnitus in the affected ear. It must be stressed that the speech discrimination *in most early tumors is normal.* Do not be misled by lack of "retrocochlear pattern" reported by the audiologist. Repeated audiograms will provide a lot of information.

2. Although the patient has few vestibular complaints, as stated before, the damage to the vestibular apparatus *occurs early and is measurable.* The ice water caloric test will pick up gross changes, but the electronystagmogram may be required for the more subtle findings such as a spontaneous nystagmus.

3. *Plain x-rays of the internal auditory canal* have not been of much help to us and often lull the physician to sleep. Linear tomograms are good and polytomography is even better if it is available. Contrast studies are the most diagnostic but, in my opinion, they should not be used as screening tests.

I place more importance on the well-done electronystagmogram than on any other tests, including polytomography, in deciding whether or not to discontinue a work-up in any given patient.

Dr. Maddox, Houston Ear, Nose and Throat Clinic, 1600 Memorial Professional Building, Houston, Texas 77002.

Nasal cytograms in clinical practice

Ben M. Nail, Jr., MD; Allen N. Weaver, MD; Stanley D. Greenberg, MD; and William M. Hitt, BS

A study of the helpfulness of nasal cytograms in a practical clinical setting was conducted and found to correlate with clinical findings in 80% of cases. The authors believe that the information from nasal cytograms would be most helpful to family physicians, pediatricians, and internists in treating nasal disorders.

The purpose of this study was to determine the value of nasal cytograms as an adjunct to the clinical diagnosis of rhinologic disorders.

Hansel,[1] in 1953, advocated examination of stained nasal discharge in the diagnosis of allergy. Dr. and Mrs. W. T. K. Bryan[2] in 1959 obtained information from "nasal cytograms," obtained by nasal swabbing and stained with Wright's stain, and subsequently, in 1969, gave cytologic diagnostic criteria for nasal allergy, bacterial infection, viral infection, measles, fungus infections and various combinations of these conditions.

Our attempts to use Bryan's staining methods were attended with difficulties encountered with his techniques in an ordinary hematology laboratory. We then tried two cytology stains commonly used in the laboratory, Papanicolaou's and Hansel's, and were able to obtain slides meaningful to technicians having a minimum of cytologic experience. We later deleted the Papanicolaou stain, for it added no information that was not obtained by the Hansel stain. Initially, simultaneous nasal mucosa biopsies were obtained, but these were discontinued because they added no additional information.

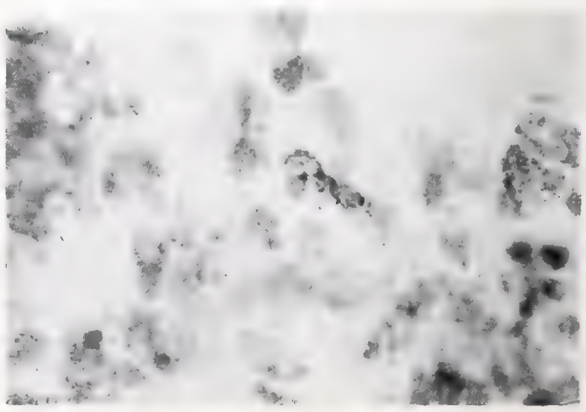
Methods, Techniques, Results

We studied 180 patients. The clinical diagnosis, based on history and physical examination, was correlated with the results of the nasal cytogram. The clinical diagnosis and nasal cytograms agreed in 80% of the patients studied.

The specimen for nasal cytography was obtained by gently inserting a cotton-tipped applicator into the nose along the inferior border of the inferior turbinate to a depth of 2-3 cm, and gently rotating it as it is slowly withdrawn. The procedure causes minimum discomfort and helps insure cooperation of children. The cotton swab is then smeared on a clean glass slide and immediately fixed with Spray-cyte before air drying occurs. In the laboratory, the slide is stained with Hansel's stain and examined

1. Goblet cell transformation of respiratory epithelial cells.

2. Eosinophilia with mast cell in the center.



under low, high, dry and oil magnifications. The entire slide is scanned and the various cell types are estimated and reported. The results were interpreted by Bryan's criteria as follows: (1) mild allergic response—goblet cell transformation of epithelial cells; (2) severe allergic response—goblet cells, many eosinophils, few mast cells; (3) bacterial infection—many neutrophils and bacteria; and (4) viral infection—epithelial cell changes of nuclear pyknosis, cytoplasmic granularity and the formation of "tuft cells"[3] (Figs 1-4).

In an attempt to avoid the problem of variable cell population and distribution on the slide, we have adopted the following technique:

Each slide is divided into six squares, and 50 cells from each square are counted, totaled and reported as follows: (1) ciliated columnar epithelial cells, (2) goblet cells, (3) squamous epithelial cells, (4) squamous metaplasia cells, (5) neutrophilic granulocytes, (6) eosinophilic granulocytes, (7) lymphocytes, (8) plasma cells, (9) mast cells, and (10) macrophages (monocytes).

Nasal mastophilia occurred in only three patients. We agree with Fischer-Pap[4] that because of the infrequent occurrence of this condition, it is not yet clearly identifiable with food allergy.

Conclusions

1. Nasal cytology is an important addition to the study of patients with rhinologic disease, but it does not supplant the time honored history and physical examination.
2. Cytologic diagnosis and clinical diagnosis agreed in 80% of 180 patients.
3. Goblet cell transformation is indicative of any irritative agent affecting the mucous membrane, including allergy, tobacco, nose drops and air pollution.

References

1. Hansel FK: Clinical Allergy, St. Louis, C V Mosby, 1953.
2. Bryan WTK, Bryan MP: Cytologic diagnosis in otolaryngology. Ophthal Otolaryng 63:597-612, 1959.
3. Bryan MP, Bryan WTK: Cytologic and cytochemical aspects of ciliated epithelium in the differentiation of nasal inflammatory diseases. Acta Cytol 13:515-522, 1969.
4. Fischer-Pap L: Rhinocytology and its diagnostic possibilities in allergy. Illinois Med J 137:611-614, 1970.

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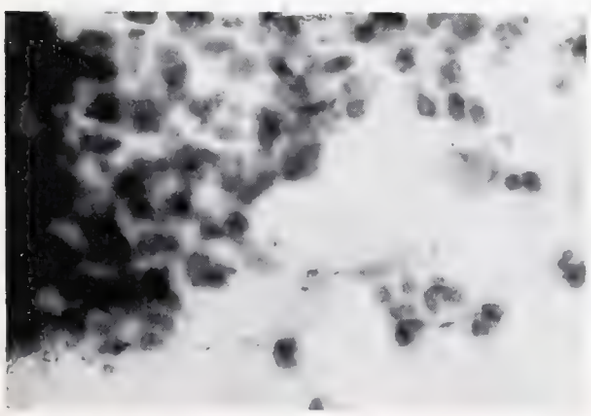
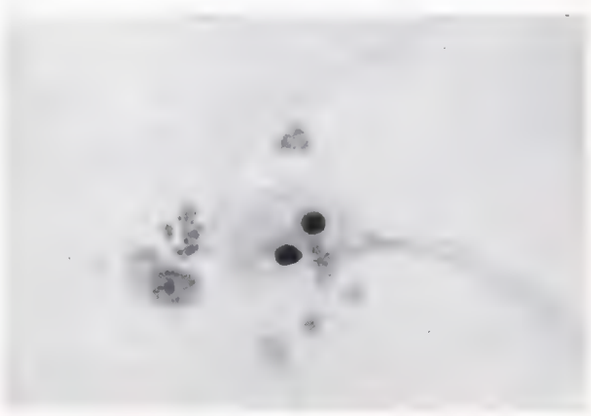
3. Chronic bacterial infection with lymphocytes and bacteria.



4. Respiratory epithelial cell with viral inclusions.



Manifestations of histiocytosis X in the ear, nose and throat

Arnold M. Cohn, MD

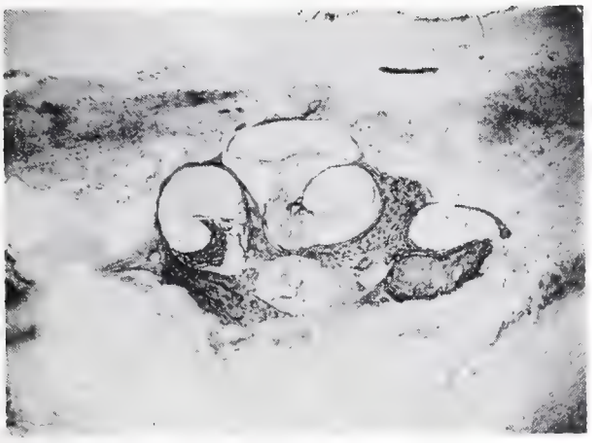
Histiocytosis X is a systemic, progressive proliferation of histiocytes in varying degrees of maturation, the etiology of which is unknown. This disorder includes the syndromes of eosinophilic granuloma of bone, Hand-Schüller Christian disease, and Letterer-Siwe disease. Manifestations of this disorder are especially frequent in the ear, nose, and throat and these often are the initial sites. Clinical alertness will lead to an earlier diagnosis, but prognosis must be guarded when the age of onset is quite young or systemic dissemination is evident. Surgical therapy has been disappointing and steroids and irradiation have provided the most effective symptomatic treatment to date.

The syndromes of eosinophilic granuloma of bone, Hand-Schüller-Christian disease, and Letterer-Siwe disease were grouped together as a common disease entity by Lichtenstein[1] to reflect different expressions of reticuloendotheliosis. He introduced the term histiocytosis X for this entity, a histiocytic proliferation of uncertain etiology. This disease complex is distinct from those disorders whose basis is a congenital disorder of lipid metabolism: xanthomatosis (cholesterol), Tay-Sachs disease (gangliocides), Niemann-Pick disease (sphingomyelin), and Gaucher's disease (cerebrosides). Reactive histiocytic proliferation to known infectious agents also must be distinguished.

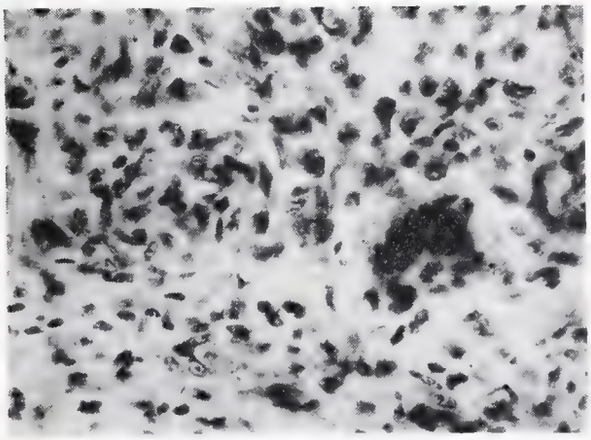
Histiocytosis X is a systemic, progressive proliferation of histiocytes in varying degrees of maturation, the pathology of which was detailed by Rappaport.[2] Acute differentiated histiocytosis (Letterer-Siwe disease) is an acute or subacute progressive systemic proliferation of differentiated histiocytes of unknown etiology. Histiogenesis may be on the basis of multicentric histiocytic differentiation of primitive reticular cells or of preexisting histiocytes, or both. There is an abundance of cytoplasm which stains palely to deeply acidophilic. The nuclei are vesicular, oval, or indented with distinct nuclear membranes. Multinucleated cells may be present. Phagocytosis by the proliferating histiocyte is not prominent during the early states, and is usually limited to hemosiderin and red blood cells. In the subacute phase, uptake of lipid material becomes manifest, wherein the histologic appearance may closely approximate that of the chronic variety, Hand-Schüller-Christian disease. Indeed, both the clinical and pathological aspects of Letterer-Siwe disease can proceed and remit to the more chronic variant of the same proliferative disorder. The tissues most commonly affected are the subepithelial layer of the skin and mucous membrane, liver, spleen, and bone, particularly the calvarium.

In the chronic form of the disease, there is even greater abundance of cytoplasm with large amounts of phagocytized intracytoplasmic lipid material, particularly cholesterol and its esters; this does not reflect abnormal lipid metabolism. Nuclear appearance is the same as that of the acute form. The sites of predilection are approximately the same as in the acute form, but progression of the disorder is slower and less extensive.

Eosinophilic granuloma of bone usually is applied when a solitary lesion is the only detectable manifestation of the systemic disorder; in infants, additional bony lesions may develop while in older children and adults it tends to remain isolated and without further dissemination. The presence of mature eosinophils gives the lesion its name, but it is doubtful that they are part of the proliferative disease.



*1. A longitudinal section of the temporal bone shows the extensive destruction of inner ear structures by the invading disease. As a reactive phenomenon, bone growth can be observed in the scala vestibuli of the basal coil, and connective tissue proliferation in the scala tympani. The cochlear duct is dilated. The middle ear is filled by the abnormal tissue. The dura was thickened but not invaded (X 6).**



a.

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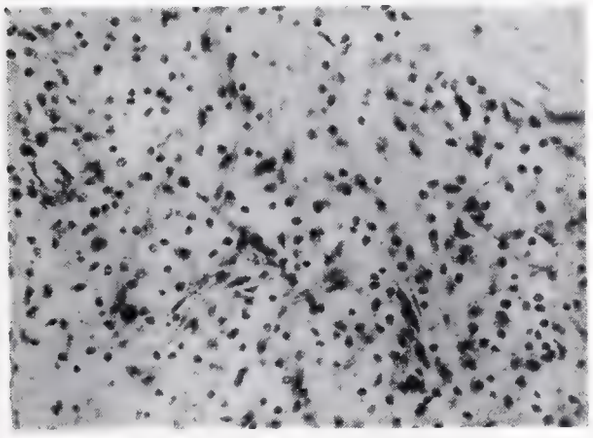

*2. The invading tissue has three components: a dense fibrous tissue with mature fibrocytes, nests of proliferating histiocytes; and islands of large histiocytes with a foamy cytoplasm reflecting phagocytized lipids. a. Proliferating histiocytes and a large multinucleated giant cell (X 16).**
*b. An island of foam cells (X 166).**

**(Reprinted with permission from Cohn AM, Sataloff J, Lindsay R: Histiocytosis X (Letterer-Siwe disease) with involvement of the inner ear. Arch Otolaryng 91:24-29, 1970.)*

A case previously reported by Cohn et al[3] will serve as the basis of discussion of the manifestations of histiocytosis X in the ear, nose and throat.

Case Report

The patient was a 6-year-old white boy in whom a generalized macular skin rash and external otitis had developed at age 17 months. He had been in good health previously and no other systemic symptoms were present. Otitis media developed with granulations appearing through a perforation in the tympanic membrane. Conservative management failed to bring on a favorable response. Three months later generalized lymphadenopathy developed, which was diagnosed as Letterer-Siwe disease on biopsy. Remission followed treatment with corticotropin (ACTH), cortisone and antibiotics. Some months later histologic Letterer-Siwe disease was diagnosed in an aural polyp, and this resolved with irradiation. Still later, a 2.0 cm mass was palpated beneath the scalp and x-rays showed a circumscribed area of bone destruction. Although remission followed steroid therapy, the skull lesion recurred after three months and was accompanied by abdominal distension secondary to hepatosplenomegaly. Ulcerative lesions of the mouth caused gingivitis and mandibular distortion; hearing loss and vertigo were manifest. Steroids and blood transfusions were needed. The left ear canal became stenosed, the left eye protruded, and x-rays showed bilateral temporal bone destruction and an additional lesion of the maxilla. Subsequently there was loss of the left eye, and involvement of the fifth, sixth and seventh cranial nerves, followed shortly by the patient's death. The histopathologic destruction of the temporal bone and the character of the proliferative tissue is illustrated in Figs 1 and 2.

Discussion

Within the framework of histiocytosis X, acute progressive histiocytosis, or Letterer-Siwe disease,[4-7] is the most aggressive form and assumes the worst prognosis. The clinical manifestations have been cited;[8] they are varied and cross all fields of medicine, but are of particular interest because of frequency of involvement of the head and neck. Not familial or hereditary, this variety of the disorder is found in patients under 4 years of age. The onset is acute and progression of the disease with multiple systemic involvement is usual. A common early sign, and often the first one, is refractory purulent otitis media which may be painless. Spontaneous perforation results in a profuse, foul-smelling discharge; response to antibiotics is poor. Pathologic perforation of the bony external auditory canal with a relatively normal tympanic membrane or persistent ear canal exudate may reflect principal involvement of underlying bone. Fever is often present, reflecting the otitis media or a poorly defined infectious process. Although infection may be the initial clinical sign, it is believed to be superimposed on a primary histiocytic proliferation. Ulcerative tonsillitis and stomatitis also are common, although they usually come later and are accompanied by a purulent rhinitis and tracheobronchitis. The pulmonary changes further include perihilar infiltrate and possible diffuse parenchymal involvement.

Hepatosplenomegaly and diffuse lymph node enlargement is common, the nodes being firm and circumscribed. A hemorrhagic diathesis often manifesting as purpura of the mucous membranes and viscera reflect diffuse reticuloendothelial involvement. Moderate but progressive normochromic or hypochromic anemia, and a depressed platelet count are common. Leukopenia or leukocytosis may be present. Multiple lesions of the skull may be present, as may diffuse involvement of the skin. Death usually occurs within two to three years of onset.

A gray zone does exist between the acute and chronic form; the clinical course may first seem to be rapid and acute, and then progress more slowly.

In the chronic variety of progressive

histiocytosis, or Hand-Schüller-Christian disease, the ear was the initial site of presentation in 25%, and was involved in 61% of reported cases.[9] Manifest as multiple bony lesions or a single lesion with associated involvement of other organs, this form generally occurs at a later age in childhood than Letterer-Siwe disease, although it can develop in children under age four. The older the patient, the more favorable the prognosis; however, the prognosis must be guarded because multiple organs are affected.

As in Letterer-Siwe disease there may be destruction of the temporal bone with or without aural discharge. There may be perforation of the mastoid cortex with development of soft, painless masses behind the ear. Discharge, when present, is chronic and refractory to local treatment. Deafness usually is severe and may be sensorineural or mixed; vertigo usually is present. The proliferative disease may then extend to the internal auditory canal and base of skull to involve the brain stem, compressing central tracts and involving cranial nerves. The facial nerve and its canal, however, are infrequently involved. The sinuses are affected, although seldom, and usually associated with rhinitis; its course tends to be indolent, mimicking sinus malignancy.

Eosinophilic granuloma is the localized variety, producing few if any symptoms and manifest by a single or few discrete and isolated bony lesions, and carries the only real favorable prognosis.

The etiology of histiocytosis X is unknown; it is believed to be inflammatory rather than neoplastic,[10] and the histopathology from isolated lesions are similar to those of the disseminated disease. Infection is believed to be secondary to these soft-tissue changes. Enriquez et al[10] believed that the prognosis must be based on clinical features rather than pathological characteristics at biopsy since all three conditions may share common characteristics in any biposy. They further stipulate the prognosis is poor for very young patients and for those with extraosseous involvement such as leukopenia and reduced platelets.

Attempts at surgical treatment of lesions in the head and neck, particularly the ear and mastoid, have met with disappointing results: poorly healing wounds and chronically draining fistuli. Irradiation and systemic steroid therapy have been the only beneficial symptomatic treatment.[9] Exacerbations alternate with remissions, the prognosis is insecure, but tends to be more favorable the older the patient is at the time of involvement and the sooner x-ray and steroid therapy is instituted.

In summary, we should remember to look closely at pediatric patients with unremitting otitis, examine them completely, and be aware of associated dermatitis, lymphadenopathy and hepatosplenomegaly. Early clinical suspicion in refractory cases will be the hallmark of diagnosis.

References

1. Lichtenstein L: Histiocytosis X; integration of eosinophilic granuloma of bone, "Letterer-Siwe disease," and "Schüller-Christian disease" as related manifestations of single nosologic entity. Arch Path 56:84-104, 1953.

2. Rappaport H: Tumors of the hematopoietic system. Washington, DC, Armed Forces Institute of Pathology, 1966.

3. Cohn MA, Sataloff J, Lindsay JR: Histiocytosis X (Letterer-Siwe disease) with involvement of the inner ear. Arch Otolaryng 91:24-29, 1970.

4. Letterer E: Aleukämische Retikulose ein Beitrag zu den proliferativen Erkrankungen des Retikuloendothelial apparates. Frankfurt Z Path 30:377-394, 1924.

5. Siwe S: Die Retikuloendotheliose-ein neues Krankheitsbild unter den Hepatosplenomegalien. Z Kinderheilk 55:212-247, 1933.

6. Siwe S: The reticulo-endothelioses in children. Advances Pediat 4:117-143, 1949.

7. Abt AF, Denenholz EJ: Letterer-Siwe's disease: splenohepatomegaly associated with widespread hyperplasia of nonlipoid-storing macrophages: discussion of the so-called reticulo-endothelioses. Amer J Dis Child 57:499-522, 1936.

8. Tos M: ENT manifestations in Letterer-Siwe disease. Acta Otolaryng 56:84-92, 1963.

9. Tos M: A survey of Hand-Schüller-Christian disease in otolaryngology. Acta Otolaryng 62:217-228, 1966.

10. Enriquez P, Dahlin DC, Hayles AB, et al: Histiocytosis X: a clinical study. Mayo Clin Proc 42:88-99, 1967.

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Diagnosis and treatment of parotid tumors

George A. Gates, MD

Underdiagnosis and undertreatment of parotid neoplasms create unnecessary clinical problems which can be avoided by recognizing that masses occurring in the region of the parotid gland are likely to be primary parotid neoplasms and that they should be treated accordingly. Lateral lobectomy is the excisional biopsy technique of choice for most clinically benign lesions. Incisional biopsy is rarely justified. Malignant lesions require specialized and aggressive surgical therapy for eradication.

Neoplasms are second only to mumps as the most common lesion of the parotid gland. Even though 75% of these neoplasms are benign, it must be stressed that one in every four patients with a parotid mass has a malignant neoplasm. Because many of the low-grade malignant growths and virtually all of the benign neoplasms are curable by definitive primary therapy, it is important to review the diagnostic and therapeutic principles applicable to these tumors.

Diagnostic Principles

1. Any mass in the parotid gland should be suspected first of being a neoplasm until there is definite evidence to the contrary. This requires a knowledge of parotid anatomy in which the relationship of the gland to the anterior and inferior aspects of the cartilaginous and bony external auditory canal is emphasized. Diffuse swelling or enlargement of the gland must be distinguished from a discrete mass within or upon the gland. The most common intraparotid masses of non-salivary origin are cysts and lymph node disorders. The cysts may be inclusion type or from first branchial cleft remnants. The lymph node involvement may represent benign hyperplasia, granulomatous disease, lymphoma, or metastatic neoplasm.

2. The physician's impression of the clinical growth pattern and physical characteristics of the mass is important. Definite evidence of malignant behavior may be assumed when weakness or paralysis of any branch of the facial nerve is observed, provided that prior surgery is not the cause. Rapid growth, pain and fixation of the mass are suggestive of malignancy. In those instances when the pathologist is unable to predict with certainty the future growth pattern of a parotid neoplasm one must decide on clinical grounds whether the mass is behaving in a benign or malignant fashion. The slow, indolent, asymptomatic enlargement typical of benign neoplasms may occasionally be observed in the low-grade group of malignant tumors. Considerable experience and judgment is required to diagnose a mass on the basis of its "feel," although it is well known that a soft mass is likely to be a Warthin's tumor and that rock-hard masses are likely to be malignant.

3. Confirmation of the clinical impression always must be attempted by obtaining a tissue specimen. It is unwise to resort to limited tissue removal such as needle biopsy or incisional biopsy where a benign lesion is suspected. One should, rather, remove the portion of the gland containing the tumor, ie, for superficial tumors a lateral lobectomy with a cuff of normal gland around the tumor. This excisional biopsy minimizes seeding of tumor cells into the wound and enables the pathologist to examine the entire tumor. For most tumors excisional biopsy will prove curative. In cases of obvious malignancy, incisional or needle biopsy, or both, may be used to obtain a tissue diagnosis prior to beginning a planned program of irradiation or chemo-

therapy. Incisional biopsy is also indicated in cases of non-neoplastic diseases, such as Sjögren's syndrome.

Classification

Any discussion of parotid gland neoplasms must recognize that many unsettled controversies still exist about their histiogenesis and, further, that even experienced pathologists have difficulty in classifying this heterogenous group of neoplasms. Only primary tumors of epithelial origin will be discussed here. These may be divided into benign and malignant categories (Fig 1).

It is also helpful to discuss parotid neoplasms by dividing them into three groups according to their prognosis: benign neoplasms, low-grade malignant neoplasms, and high-grade malignant neoplasms. The benign neoplasms exhibit slow painless growth without facial nerve paralysis, fixation or metastasis. Like all primary neoplasms of the parotid gland they are almost always uninodular. Recurrence after complete excision is uncommon. If seeding of the tumor occurs at the time of operation, the recurrences usually are multiple. The benign mixed tumor, the Warthin's tumor, and the adenoma are included here. High-grade neoplasms grow painfully and rapidly, with fixation and facial nerve involvement. Aggressive local recurrence and cervical and systemic metastases are common. Cure rates are low. The squamous cell carcinoma, the high-grade mucoepidermoid tumor, the malignant mixed tumor, acinic cell adenocarcinoma and all undifferentiated neoplasms are examples of high-grade malignancies. The low-grade malignant group may appear clinically to be benign or present with the stigmata of malignancy, although they are less aggressive in behavior. The clinical course is variable but generally is one of pernicious and persistent local recurrence. Included here are the low-grade mucoepidermoid tumor, adenocystic adenocarcinoma, and acidophilic adenocarcinoma.

Benign Epithelial Neoplasms

Mixed Tumor: This is the most common salivary neoplasm, accounting for 65% of primary parotid tumors. It consists of two components, epithelial and stromal. The currently popular term, "pleomorphic adenoma," is used to indicate that both components are epithelial in origin.[5] Considerable evidence indicates, however, that the cartilage-like stromal areas arise from the myoepithelial cell which is of mesenchymal origin.[4] This justifies the continued use of "mixed tumor" as a descriptive term. More than 95% of mixed tumors are benign. The gross and microscopic appearance of the benign mixed tumor is both complex and variable. It is lobulated and well demarcated even where its capsule is thin or absent. Projections of tumor through the capsule

1. Benign and malignant primary tumors of epithelial origin.

A. Benign tumors
   1. Mixed tumor
   2. Mucoepidermoid tumor
   3. Warthin's tumor
   4. Serous cell adenoma
   5. Acinic cell adenoma

B. Malignant tumors
   1. Squamous cell carcinoma
   2. Adenocarcinoma
      a. Adenocystic adenocarcinoma
      b. Acinic cell adenocarcinoma
      c. Acidophilic cell adenocarcinoma
      d. Undifferentiated adenocarcinoma
   3. Mucoepidermoid tumor
   4. Malignant mixed tumor
   5. Unclassified

are seen frequently but do not indicate infiltrative growth. The presence of epithelial and myoepithelial cells associated with a stroma is necessary for diagnosis. The stroma may be abundant or sparse and may be myxoid, fibroid, chondroid, or myxochrondroid. In one-third of cases the cellular and myxoid elements are nearly equally distributed, 22% are predominantly cellular and 12% may be classified as extremely cellular.[2] Clinically, the mixed tumor is a firm, discrete, mobile, lobulated mass which usually is located in the superficial part of the gland. Tumors deep in the lobe may grow medially through the stylomandibular ligament into the parapharyngeal space and appear clinically as an intraoral mass. Treatment by excision of that portion of the gland containing the tumor and preserving the facial nerve is curative. Removal by enucleation is contraindicated because of the risk of microrupture and spillage of the tumor in the wound. Recurrences usually are multiple and require excision of the skin, subcutaneous tissue, and gland containing the tumor. With repeated operations for recurrent mixed tumor, scar tissue formation obliterates the dissection plane along the nerve to such an extent that tumor removal without facial nerve injury may be dificult. The use of the operating microscope may be helpful in this instance.

Mucoepidermoid Tumors: Approximately 5% of parotid tumors are mucoepidermoid tumors. The tumor is composed of squamous and mucin producing glandular epithelium associated with a third cell type, intermediate between the two, which appears to be derived from ductal epithelium. The intermediate cell appears to be capable of differentiating into either the squamous or the mucin producing cell. All three types are seen in the low-grade tumors. The tumor is not well encapsulated and may show inflammatory changes in the surrounding tissue due to leakage of mucin from ruptured cysts within the tumor. The tumor behaves benignly in 75% of cases and clinically is indistinguishable from the mixed tumor. It averages 2-3 cm in size, seldom exceeding 5 cm. Intermittent complaints of tenderness and pain associated with inflammatory swelling of the gland are sometimes observed with this neoplasm.

There are two difficulties in establishing the prognosis of a mucoepidermoid tumor: its histologic appearance cannot be well correlated with its behavior, and its inflammatory aspects may mimic infiltrative growth. Because of these considerations it has been suggested that all mucoepidermoid tumors should be classified as malignant and that they be divided into low-grade and high-grade types depending on their clinical behavior.[2] The histologic diagnosis must be correlated with the clinical and operative findings before a prognosis is established.

Treatment of the clinically benign tumor is subtotal parotidectomy and preservation of the facial nerve. Total parotidectomy may be considered for the inflammatory type tumors.

Warthin's Tumor: Approximately 6% of parotid tumors are Warthin's tumors. Among its many synonyms the term "papillary cystadenoma lymphomatosum" is the most commonly employed and most descriptive. The tumor arises from ductal cell elements congenitally trapped in paraparotid lymph nodes.[3] The tumor is classically described as a moderately soft circumscribed mass 1-3 cm in diameter occuring in the tail of the parotid gland of an elderly male. Grossly, the tumor is well encapsulated, bulges when transected, and contains a variable amount of brown mucoid fluid. It is not uncommon to see bilateral or multiple Warthin tumors in the same patient. The tumor rarely recurs after adequate excision. A malignant counterpart is unknown.

Serous Cell and Acidophilic Cell Adenomas: The true adenomas comprise less than 1% of all epithelial parotid neoplasms and show no tendency toward recurrence following removal by subtotal parotidectomy. The serous cell adenoma is thought to arise from acinar epithelium and the acidophilic adenoma from ductal epithelium.

Malignant Epithelial Neoplasms

Squamous Cell Carcinoma: Squamous cell carcinoma is a high-grade malignancy

that is presumed to arise from metaplastic ductal epithelium, although the etiological factors in its genesis are not clear. Observation indicates that most of these tumors arise *de novo* within the gland. Clinical examination reveals a stony hard mass fixed to the surrounding tissue with facial nerve involvement in 20 to 30% of the cases. The clinical course of this neoplasm resembles that of a squamous cell carcinoma of the head and neck in general except that those involving the parotid usually display a higher grade of histologic and clinical malignancy. Lymph node metastasis is common. Treatment involves resection, radiation and chemotherapy according to the extent of the tumor and condition of the patient. Preoperative irradiation followed by radical resection of the gland including the facial nerve, and, where indicated, adjacent muscle and bony boundaries and an in-continuity neck dissection represents the most definitive treatment program. Irradiation is used for palliation in advanced cases and postoperatively where tumor removal is incomplete. The value of arterial infusion chemotherapy prior to irradiation and resection is currently under study in many institutions.

Adenocarcinoma: Adenocystic Adenocarcinoma: This neoplasm was first described by the term cylindroma, which was used to indicate the organization of the stroma into cylinders covered by sheaths of cells. The many pseudonyms (eg, adenoidcystic adenocarcinoma, pseudoadenomatous basal cell carcinoma) for this malignant neoplasm indicate to some extent the uncertainty of its origin. The microscopic pattern of small dark cells arranged in anastomotic cords surrounding spaces filled with mucous or hyalin material may show variation in distribution of either component.

Its initial clinical appearance resembles that of any benign parotid neoplasm except that pain is often a prominent symptom. Although palpation indicates a discrete solitary mass, local infiltration is apparent at operation or on cut section. A pattern of slow insidious growth is characteristic. Metastasis occurs to one or more distant sites, particularly the lungs, liver, bone and brain (in 50% of the cases). Periods of 5 to 20 years or more between treatment and recurrence are not uncommon. Some patients live comfortably for several years even with multiple pulmonary metastases. Regional lymph node metastasis is not a common finding in the untreated patient. Probably no form of therapy significantly modifies the natural history of this tumor even though current therapy, which consists of parotidectomy with removal of involved facial nerve branches and postoperative irradiation, appears to have doubled five-year tumor-free statistics. Close attention to frozen section control of resected nerve ends is important because of the notorious propensity of the adenocystic adenocarcinoma to spread along neural sheaths.

Acinic Cell Adenocarcinoma (Serous Cell): This rare neoplasm of acinar origin is seen rarely outside the parotid gland and has exhibited, in our experience, aggressive local and systemic metastasis. Other studies that do not recognize the benign counterpart of this tumor describe a more indolent clinical course. Two-thirds of the cases occur in females. This tumor is not radiosensitive and treatment has been principally surgical.

Acidophilic Adenocarcinoma: This is generally seen in older men and behaves rather like the acinic cell adenocarcinoma. It is treated similarly by surgical means.

Undifferentiated Adenocarcinoma: In many cases it is not possible to subclassify an adenocarcinoma and the term undifferentiated adenocarcinoma seems justified. In general these are high-grade malignancies and may show a remarkable propensity for regional lymphatic as well as systemic metastasis. Radical parotidectomy and in continuity neck dissection should be considered in these cases. Cure rates are low.

Mucoepidermoid Tumors: These tumors showing histologic patterns compatible with the mucoepidermoid tumor and exhibiting rapid growth, tissue invasion, facial nerve involvement, and local or distal metastases are considered to be malignant and are treated accordingly. These high-grade malignancies comprise less than 20% of all mucoepidermoid tumors, and

because of a poor response to radiation therapy wide local surgical excision has been the treatment of choice.

Malignant Mixed Tumor: Malignant mixed tumors are of two types: the rare true malignant mixed tumor in which metastases contain both stromal and epithelial elements and the more common circumstance of a carcinoma arising in a pre-existing mixed tumor.[1] In the latter case the metastases are composed of epithelial cells only and which may be epidermoid or, more often, glandular in nature. Malignant mixed tumors are aggressive in behavior. Treatment is surgical, the extent of the resection being based on tumor size, degree of infiltration and the status of regional lymphatic involvement.

Unclassified Carcinomas: The number of unclassifiable tumors has diminished in recent years during which a better understanding of the histogenesis and behavior of parotid neoplasms still defy histologic classification.

Treatment Principles: 1. Adequate exposure: Wide exposure of the gland and cosmetic closures is possible using the modified Blair incision. This incision lies in natural skin lines and folds about the pinna and upper neck and permits elevation of a facial skin flap easily exposing the entire gland. Incisions in the lateral facial skin are unnecessary, uncosmetic and are exceedingly difficult to re-excise when re-exploration is necessary. Small incisions made in the office or biopsy suite with the mistaken impression of sebaceous cyst or hypertrophied lymph node lead to inadequate removal of tumor and injury to the facial nerve.

2. Facial Nerve: The nerve is not sacrificed for benign disease. Where a diagnosis is in question on frozen section, it is prudent to close the wound, await the interpretation of the permanent sections and operate again if necessary.

3. Subtotal Parotidectomy: This is the basic operation and removes all of the gland lateral to the facial nerve. Since most of the gland is lateral to the nerve, it follows that most of the benign tumors and the smaller low-grade malignancies without facial nerve involvement can be removed by this operation. This is the lateral lobectomy or excisional biopsy. Postoperative facial paralysis is unusual and salivary fistula is rare following this procedure.

4. Total Parotidectomy: The portion of the gland deep to the nerve is removed as a separate specimen following the subtotal parotidectomy. This surgery is indicated for benign tumors and small, low-grade tumors without facial nerve paralysis originating in the deep portion of the gland. The facial nerve is necessarily stretched, and temporary paralysis is not uncommon although recovery is the rule. Remnants of glandular tissue remain in the anatomical crevices about the gland after this procedure.

5. Radical Parotidectomy: Total removal of the gland and facial nerve is indicated for all low-grade malignancies with facial nerve involvement that have not had prior resection; this is accomplished by removal of the gland encased by its neighboring muscle and fascial structures, ie, platysma, masseter, lateral pterygoid, posterior belly of the diagastric, stylohyoid and the sternocleidomastoid. Facial nerve grafting should be done routinely.

6. Radical Parotidectomy and En-bloc Neck Dissection: All high-grade neoplasms, all recurrent malignancies, and all deep-lobe malignancies are treated by including the contents of the lateral neck with the specimen already described. The operation may be extended to include the ramus of the mandible, skin, ear canal, and mastoid for advanced cases. In this instance, facial nerve grafting generally is not done.

References

1. Batsakis J: Benign and malignant "mixed tumors" of the salivary glands. U Mich Med J 37:178-184, 1971.

2. Foote FW Jr, Frazell EL: "Tumors of major salivary glands," Atlas of Tumor Pathology sec N, fasc 11, Armed Forces Institute of Pathology, 1954.

3. Thompson AS, Bryant HC Jr: Histiogenesis of papillary cystadenoma lymphomatosum (Warthin's tumor) of the parotid salivary gland. Amer J Path 26:807-849, 1950.

4. Welsh RA, Meyer AJ: Mixed tumors of human salivary gland, histiogenesis. Arch Path 85:433, 1968.

5. Willia RA: Pathology of Tumors. ed 4, London, Butterworth, 1967.

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Diagnosis and Treatment
Cleveland, Ohio

CONTINENTAL BREAKFAST PRESENTATIONS

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   Norfolk, Virginia

2. AFTER THE MYOCARDIAL INFARCT IS HEALED
   John L. Boyer, M. D.
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3. PERINEAL ABSCESS—FISTULA OR NOT?
   Alejandro F. Castro, M. D.
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4. ELECTROLYTE DISORDERS
   John H. Dirks, M. D.
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5. IDIOPATHIC HEMATURIA—SURGICAL VIEWPOINT
   Ruben F. Gittes, M. D.
   San Diego, California

6. DIAGNOSIS OF MUSCLE WEAKNESS
   IN INFANTS AND SMALL CHILDREN
   Ernest W. Johnson, M. D.
   Columbus, Ohio

7. SPONTANEOUS RUPTURE
   OF ESOPHAGUS—A DEATH TRAP
   Emil A. Naclerio, M. D.
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8. THE FAMILY OF THE ALCOHOLIC
   Maxwell N. Weisman, M. D.
   Baltimore

Saturday, May 5, 8:15-9:30 a.m.

9. GENERAL ANESTHESIA FOR CESAREAN SECTION
   Marion A. Carnes, M. D.
   Davis, California

10. PITFALLS IN NEONATOLOGY
    Donal Dunphy, M. D.
    Iowa City, Iowa

11. HYPOGLYCEMIA
    Frederick C. Goetz, M. D.
    Minneapolis

12. IMPOTENCE
    Donald W. Hastings, M. D.
    Minneapolis

13. LUNG FUNCTION IN PNEUMONIA
    Roland H. Ingram, Jr., M. D.
    Atlanta

14. PHACO–EMULSIFICATION–
    FULL ACTIVITY AFTER
    CATARACT EXTRACTION
    Richard P. Kratz, M. D.
    Van Nuys, California

15. MAKING SENSE OUT OF
    THYROID RADIOISOTOPE TESTING
    James L. Quinn, III, M. D.
    Chicago

16. CONIZATION OF CERVIX?
    Duane E. Townsend, M. D.
    Los Angeles

Id reactions from focal fungus infections treated by immunological methods

Harris Hosen, MD

Focal fungal infections may spread to various parts of the body to form id lesions, which may take the form of papules, macules, or oozing types of eczema. Frequently the focal lesions cannot be reached by local therapy due either to the location of the lesions such as in the nasopharynx, or to the spread of the infecting fungi to deeper cell layers of the involved tissue. In such situations the use of immulogical therapy may be curative.

Calloway and Olansky[1] describe dermatophytids as secondary eruptions occurring in specifically sensitized individuals by hematogenous spread of fungi or their products from a primary focus. Their criteria for an id are: (1) demonstration of a pathogenic fungus at the primary site; (2) no pathogenic fungi in the secondary id's lesions; (3) a positive intradermal trichophyton skin test; and (4) id disappears without specific treatment when the primary focus is eradicated. These authors state that the common sites for ids are the sides of fingers and hands, but they may become generalized. The id lesions usually are deep-seated vesicles that may take other forms. The basic treatment of an id consists of treating the primary focus, and this should be conservative to avoid exacerbating the id. The id lesions are treated symptomatically.

Flood[2] gives a similar description of an id reaction but stresses that a positive tricophyton test reaction does not mean that the eruption of the hand is a dermatophytid.

Generally speaking, id reactions are defined as pustular or vesicular eruptions of the hands emanating from a focal fungus infection usually found on the feet.

Therapy apparently has been no great problem since the focal lesions can be treated successfully by local or oral therapy. Griseofulvin is considered as a specific remedy for *Trichophyton* infections and Mycostatin is specific for monilial infections.

My interest in id reactions concerns focal fungal infections which have invaded deeper cell layers which cannot be reached by local therapy. Focal lesions also may occur in areas that cannot be reached by local therapy, such as the nasopharynx or bronchial tree. Furthermore, id reactions may ocur without the typical vesicular and pustular type of lesions. Ids may occur as typical eczematous eruptions or papular eruptions on any area such as the neck, sacral area, face or anal region.

When focal fungal infections cannot be reached by local therapy, oral therapy with griseofulvin can be an answer only for *Trichophyton* infections, but not for *Monilia albicans* infections. Such distant lesions can be successfully treated by immunological therapy.

My experience has been limited to four cases of *M albicans* infection; the patients came to me with the complaint of eczema.

Case 1: A 65-year-old woman complained of eczema of the external auditory canals which had been treated with fungicides for several years with only temporary relief. In addition, she had an itching macular rash surrounding the anal area, which was of many years' duration. Scrapings of the anal lesion failed to grow in Sabouraud's agar. A culture of the external ear canal produced a rich growth of *M albicans*. This culture was repeated three times, and each time a rich growth of *Monilia* occurred. Local therapy in the past gave only temporary relief, for the *M albicans* infection had penetrated to the deeper cell layers, not reached by local therapy.

An emulsion[3] injection of 2,000 PNU of *M albicans* produced a clinical cure within two weeks. The anal lesion disappeared within the same period of time. One year later the patient was still free of symptoms.

Case 2: A 50-year-old woman had a severe itching patch of eczema on the sacral area of one month's duration. Local therapy with a steroid ointment gave some relief. Scrapings of the eczema were negative on culture for any fungal growth. Further questioning elicited a history of a watery, oozing discharge from the rectum and vagina. Cultures of each area yielded rich growths of *M albicans*.

Oral therapy with 200,000 units of Mycostatin four times a day for ten days was started. At the same time, an emulsion of 2,000 PNU of *M albicans* was given by injection. A clinical cure of both the rectal and vaginal discharge occurred within three weeks. The id reaction disappeared soon afterward. Since I was treating the patient for bronchial asthma, *M albicans* extract was added to her allergy therapy injections. Four years later there was no recurrence.

Case 3: A 65-year-old man came for an oozing type of eczema which completely encircled his neck. No fungi grew on cultures.

This patient had a postnasal drip and a morning bronchial cough of a minor nature. An examination of the secretions coughed up in the morning showed eosinophilia with an absence of bacteria. A culture on Sabourad's agar yielded a rich growth of *M albicans*. Two more cultures were made several days apart and they showed the same abundant growth of *M albicans*.

Treatment was started with an emulsion injection of 2,000 PNU of *M albicans* and this was followed by multiple injections of an aqueous extract of *Monilia* given every two weeks and later monthly to keep up the immunological titer of antibodies.

Within two weeks the eczema of the neck was healed and the postnasal drip and cough were greatly reduced. Due to the location of the focus of infection and the allergic nasopharyngitis, the patient was advised to continue therapy for a year or more. He is still being treated successfully.

Case 4: A 50-year-old woman came in with an itching papular eruption on the face of one month's duration. In addition she had an acute wet, itching, eczematous dermatitis on the dorsum of the left foot and chronic, dry, eczematous dermatitis between the toes of the right foot. This condition was of several years' duration with intermittent acute flare-ups only on the left foot. Therapy in the past had given moderate relief but never a cure.

Three consecutive cultures from the left foot yielded rich growths of *M albicans*. Local therapy with Domeboro soaks and Mycolog ointment gave moderately good results within two weeks. Prednisone was given during this time with complete eradication of the papular facial rash. Stopping the Prednisone for four days was followed by a recurrence of the facial papular rash.

An emulsion injection of 2,000 PNU of *M albicans* caused a complete disappearance of the papular rash within two weeks. The dry eczema between the toes of the right foot was almost gone, and the dermatitis on the left foot was improved. Scrapings of the now dry, rough skin of the left foot failed to grow *M albicans*. This patient continued to have moderate eczema of the feet, but no recurrence of the monilial complication. The id reaction did not return.

Discussion

Since *M albicans* (or *Candida albicans)* is so prevalent in our environment, it is not unusual to find this organism on the skin, in the sputum, or in the vagina where it lives as a saprophyte. The finding of small numbers of such fungi at intervals is of no importance, but if rich growths of *Monilia* are cultured consistently one can well assume that this fungus is acting as a true pathogen.

In the past, little recognition has been given to infections due to saprophytic fungi because routine cultures did not reveal possible fungal involvement. Therefore, if one suspects an infection to have a fungal etiology, specific methods of investigation must be utilized. The use of Sabouraud's agar specifically will grow fungi without growing bacteria.

In my study of fungal infections, I use Nickerson's culture medium which will grow *M albicans* at room temperature within 24-48 hours. Other saprophytic fungi will grow in this medium within five to ten days.

A fungal infection in any site, whether it be the vagina, nasopharynx or external auditory canal, may not only cause local symptoms but may possibly act as a focus distributing toxins which may cause distal pathology of an allergic nature known as an id. Id reactions may appear in diverse areas and in different forms ranging from papular itching dermatitis to severe oozing eczema.

Treatment: Focal *M albicans* infections respond to local therapy with nystatin or gentian violet. Unfortunately, recurrences are not infrequent as the fungi may penetrate into the deeper layers of the superficial cells. When this occurs, the medication used does not come into contact with the fungi involved and clinical symptoms recur.

It is in this type of case that immunological therapy is indicated. Orthodox immunological therapy, consisting of multiple injections, can be used successfully. A stock or 1:10 dilution of an extract of *M albicans* is diluted in multiples of ten to the 1:100 and then to the 1:1000 dilution.

Weekly or biweekly injections can be given starting with the 1:1000 dilution and rapidly building up to the 1:10 dilution. When the 1:10 dilution is reached, weekly and then semi-monthly injections can be given. A top dose of 0.2 cc of the 1:10 dilution will give an adequate immunity within three or four months. After six months or more of treatment there will be a sufficient immunity to allow cessation of therapy.

For the most part, I have used the emulsion type of therapy. In this discipline, 2,000 PNU of *M albicans* extract is made into an emulsion using mineral oil mixed with Arlacel A. One injection of such an emulsion will give an immunity within two to four weeks which will equal or surpass that immunity produced by the multiple injection method during a period of four to six months. This is made possible by the adjuvant action of mineral oil. Clinical results thus will occur more rapidly and efficiently.

The emulsion type of therapy requires a specific type of oil mixture which the FDA does not recognize. Consequently, the emulsion has to be made locally by the individual allergist and cannot be sent across state lines.

Recently I have used a pyridine alum precipitated extract* of *M albicans* in therapy with success. This not only has an excellent adjuvant action, but the injections can be given at infrequent intervals. The success with this technique of therapy equals or surpasses that of the emulsion. Marshall Mandel, in a personal communication, reported excellent response with this method in two cases.

Conclusions

(1) Focal fungal infections may spread by the hematogenous route to various parts of the body to form id lesions. (2) Id lesions may take the form of fine papules, macules or oozing types of eczema. (3) Focal fungal lesions cannot be reached by local therapy due either to the location of the lesions (such as the nasopharynx) or to the spread of the infecting fungi to deeper cell layers of the involved tissue. (4) In such cases, the use of immunological therapy may be curative.

References

1. Callaway JL, Olansky S: Superficial mycotic infections of the skin; diagnosis and therapy. Chron Dis 5: 518-527, 1957.

2. Flood M: Allergic dermatitis of the hands. Skin 2:97-103, 1963.

3. Brown EA: Opsiphylactic treatment of inhalant allergy. Proc fourth Internat Congr Allerg, Oxford, Pergamon Press, 1962.

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Carbon tetrachloride poisoning
Report of a case

Carroll C. Jones, MD

A case of carbon tetrachloride poisoning is presented. Characteristic immediate and delayed effects of the compound on the body were observed, including elevated serum glutamic oxaloacetic transaminase values on the second day and acute renal failure on the third day. Complete recovery followed peritoneal dialysis. The recent literature on carbon tetrachloride poisoning is reviewed. It is hoped that recent requirements that carbon tetrachloride be dispensed only by prescription will reduce its availability for purposeful and accidental poisonings.

Carbon tetrachloride (CCl_4) is a heavy, colorless, nonflammable liquid with a sweet, penetrating odor that is widely used as a solvent and stain remover. Unfortunately, carbon tetrachloride is quite toxic when ingested as a liquid or when inhaled as a vapor.[1] This compound is also rapidly absorbed through the skin. Oil or alcohol enhances the rate of absorption both through the skin and through the gut. The toxicity of carbon tetrachloride is increased by the associated intake of alcohol, and many cases of poisoning occur when there has been slight exposure to carbon tetrachloride by patients who were consuming alcoholic beverages.[2-5] It is estimated that the safe allowable concentration of carbon tetrachloride vapors is 100 ppm.

In many respects, carbon tetrachloride is representative of a large class of related halogenated hydrocarbons.[1] Carbon tetrachloride has been readily available to the general public in many hardware and drug stores. A new federal law requires that the agent be dispensed only by prescription, and thus, most pharmacies are not restocking carbon tetrachloride once their present supply is gone.

Case Report

A 46-year-old white woman was admitted to Pasadena Bayshore Hospital on May 15, 1971, following a suicide attempt in which she ingested approximately 90 cc carbon tetrachloride, several 5 mg tablets of diazepam (Valium) and several tablets of glutethimide (Doriden). The exact number of tablets was never determined. She was rushed to the emergency room within 15 minutes after ingesting the carbon tetrachloride. The patient was able to walk and, although she was sedated, she was responsive to questions. She had a chloroform-like breath odor. Gastric lavage with 2,000 ml normal saline followed, with installation in the stomach of two packs of Res-Q (a universal antidote containing activated charcoal, magnesium hydroxide and tannic acid) and 15 gm magnesium sulfate was immediately started. A few fragments of tablets were seen in the gastric washings. Methylphenidate hydrochloride (Ritalin), 20 mg, was administered intravenously. There was what appeared to be a fresh chemical burn on the right cheek, and the mucous membranes were hyperemic. In the bladder were 300 ml of residual urine that was normal on analysis. The pupils were small and reacted sluggishly to light. A slight divergent strabismus developed, and the patient lapsed into a coma 30 minutes after admission. Her neck was supple and the thyroid was not enlarged. The carotid pulsations were normal. Breath sounds were harsh over all lung fields. The heart rate was regular and no murmurs were heard. No masses, rigidity or tenderness were noted on abdominal examination. The extremities showed no cyanosis or edema. Deep tendon reflexes were present and equal bilaterally initially, but disappeared

as the patient lapsed into coma. The blood pressure was 120/80 mm Hg and the pulse rate was 80/minute. Respirations were slow and shallow. An emergency tracheostomy was performed in the emergency room and mechanical ventilation was administered using the Bennett Model PRI respiration unit.

During the first eight hours after admission, the patient received 2,200 ml intravenous fluid in the form of Ringer's lactate (1,000 ml), and 5% dextrose (1,200 ml). Three hours after admission, 12.5 gm mannitol in solution was administered intravenously. Her urinary output during the first eight hours was 625 ml. Renal failure was predicted, but in view of her satisfactory urinary output liberal amounts of intravenous fluid were administered. In the next 24 hours, she received 3,760 ml of fluid, both intravenously and by mouth while her output included 400 ml emesis, 650 ml liquid stool and 1,595 ml urine.

Laboratory values on admission included a white blood cell count of 13,600/cu ml, serum glutamic oxaloacetic transaminase (SGOT) 25 units, bilirubin 1.5 mg/100 ml, blood urea nitrogen (BUN) 20 mg/100 ml. The hemoglobin, hematocrit, sodium, potassium, carbon dioxide and chloride values were normal. A serum barbiturate determination was 5.2 mg/100 ml expressed as secobarbital.

Eight hours after admission, spontaneous respirations recurred and deep tendon reflexes returned. The patient was oriented and alert 12 hours after admission and, at that time, she completed a history of despondency and depression leading to the suicide attempt. She had had psychiatric problems during the previous ten years and was hospitalized on three separate occasions for psychotic depression. Electroshock therapy had been given during each hospitalization. Confinement for several months in a state institution had been recommended, but the patient had never followed the recommendation.

Two days after admission oliguria developed. During the fourth day of admission, urinary output was 122 ml and on the sixth day after admission, it was 180 ml. The patient remained alert, oriented and cooperative but complained of a severe suboccipital headache and of generalized muscular aches and pains. There was tenderness on pressure over the muscle groups, and tenderness bilaterally in the flanks as well as in the right upper quadrant of the abdomen. Her appetite was poor. She vomited frequently and had frequent green bowel movements. Her face was flushed and large amounts of thick, yellowish sputum were aspirated frequently.

The blood pressure averaged 152/100 mm Hg until three days after admission when it suddenly fell to 70/30 mm Hg. One injection of 2.5 mg metaraminal (Aramine) brought the blood pressure to 100/80 mm Hg.

On the second day after admission, the SGOT had increased to 25,000 units and the BUN to 36 mg/100 ml. The creatinine was 1.1 mg/100 ml and the uric acid was increased at 16.4 mg/100 ml. The serum electrolytes remained normal. The patient required little or no medication for pain. Her diet consisted largely of rock candy and 7-Up. She was allowed 1,000 ml of fluid by mouth and 500 ml intravenous fluid daily. Her blood pressure averaged 150/96 mm Hg.

Six days after exposure, the SGOT was 4,850 units. Azotemia was evident with a BUN 120/100 ml, uric acid 26.4 mg/100 ml, creatinine 10.8 mg/100 ml and CO_2

16 mEq/liter. The barbiturate level had fallen from an initial value of 5.2 mg to 0.23/100 ml, expressed as secobarbital, by the sixth day. Other results of laboratory studies included normal values for serum globulin, albumin, total serum proteins, alkaline phosphatase, potassium and chloride. Roentgenograms of the chest and abdomen were normal. Electrocardiograms and an electroencephalogram were normal.

Two days after exposure, the urinalysis showed albuminuria (1+), specific gravity 1.030, and 2-3 white cells microscopically. No casts nor red blood cells were seen. On the third day, the urine was loaded with uric acid crystals and showed 4-5 red blood cells and 7-10 white blood cells microscopically.

Five days after exposure, the urinalysis showed specific gravity 1.016, reaction 8, albuminuria (4+), 2-4 white blood cells, and numerous red blood cells.

Peritoneal dialysis was started using the recommended technique on the seventh day after exposure and continued through the tenth day—a total of 48,000 ml (24 exchanges). On the eighth day after admission the BUN was 73 mg/100 ml, creatinine 12.0 mg/100 ml, CO_2 18 mEq/liter, and SGOT 225 units. These values remained approximately the same during the next three days. On the 11th day after admission the potassium was 5.7 mEq/liter. Sodium polystyrene sulfonate (Kayexalate) was given in doses of 15 gm suspended in Karo syrup on five separate occasions during a 24-hour period. Potassium was lowered to 4.4 mEq/liter.

Sixteen days after exposure and nine days after dialysis was started, the BUN had increased to 130 mg/100 ml and the creatinine to 12.5 mg/100 ml. A urine culture at this time showed *Escherichia coli* (greater than 100,000 organisms/ml) and the patient was started on probenicillen (Geopen) 2 gm intravenously at 8-hour intervals from the 10th through the 16th days after poisoning.

The patient entered a diuretic phase and by the 18th day after exposure, the BUN fell to 77 mg/100 ml and creatinine to 7.6 mg/100 ml. By the 25th day after exposure, all laboratory values monitored were normal and remained so on follow-up.

On the 15th day after poisoning, the patient's blood pressure was elevated to 170/100 mm Hg and she had three convulsive seizures. She was given 2.5 mg reserpine intramuscularly, and 100 mg diphenylhydantoin sodium (Dilantin) three times daily was prescribed.

Prior to discharge, a regimen of hydrochlorothiazide, guanethidine and Apresoline was prescribed in order to control the mild but fairly refractory hypertension. Arrangements for psychiatric care as an out-patient were made.

Repeat studies one year later showed normal values for serum creatinine, creatinine clearance and a liver scan.

Discussion

Carbon tetrachloride, when ingested, is said to cause a feeling of warmth of stomach region, followed by inebriation, hiccough, abdominal pain, nausea, vomiting, diarrhea, headaches, convulsions and coma.[3,6] Death may occur quickly as a result of respiratory or cardiovascular failure. Gastrointestinal and hepatorenal injuries are said to be more prominent after ingesting carbon tetrachloride, possibly because of higher levels in the portal blood stream.[2]

Most carbon tetrachloride poisoning in man, however, occurs after inhalation of vapors. Nervous symptoms are said to predominate in this type exposure. Symptoms include dizziness, headaches, stupor, and unconciousness. Death may occur from central depression or ventricular fibrillation.

Recovery from the initial acute toxic effects of carbon tetrachloride exposure does not preclude the almost certain later acute toxic effects on the liver and kidneys. These effects are seen from one to eight days after exposure (usually 24-36 hours). It is an interesting fact that oliguria is delayed in carbon tetrachloride poisoning while it follows immediately in other causes of renal injury.

Twelve to 36 hours after ingestion of carbon tetrachloride there are headaches, general malaise, muscular pain, nausea, vomiting, diarrhea (sometimes bloody) and abdominal tenderness, especially over the liver area. Urine becomes dark and scant due to tubular damage and there is usually flank pain. Clinical signs of hepatitis appear with an enlarged tender liver, increasing jaundice and elevated transaminase values. Carbon tetrachloride appears to produce a more selective damage on the kidneys than on the liver. Death, if it occurs, is usually attributed to renal failure and not to acute liver damage.

Acidosis and high levels of nonprotein nitrogen, creatinine and potassium occur as a result of acute renal failure. Death may be caused by acute pulmonary edema related to excessive intravenous fluid therapy or to hyperkalemia or to a generalized reaction to retention of toxic products produced by necrosis in the liver and kidneys. Elevation of blood pressure may not occur until a few days after kidney damage becomes apparent.

Laboratory studies show marked elevation in the serum glutamic oxaloacetic transaminase (SGOT) levels. The bilirubin may be moderately elevated. These values are useful in following the course of the liver involvement. Elevations reflect the extent of liver damage, while decreases in these values parallel clinical recovery and serve as a useful tool in prognosis. Elevations of SGOT reach maximal concentrations within the first three days after poisoning, and are higher than for any other disease except for hepatitis, frequently attaining values in the thousands of units.

Leukocytosis with a left shift is a usual finding the first few days of carbon tetrachloride poisoning. Falling hematocrit may mean unsuspected gastrointestinal bleeding. Anemia associated with carbon tetrachloride poisoning usually is attributed to hemorrhage and it is not likely to be due to hemolysis or to toxic suppression of the bone marrow.

Urinalysis soon after exposure may show mild proteinuria and microscopic hematuria which become marked at the onset of acute tubular necrosis. A persistently low specific gravity and the presence of tubular casts indicates tubular damage. Blood urea nitrogen, creatinine and creatinine clearance are convenient assessments of renal function.

The liver injury appears before renal injury. Necrosis of liver cells, especially those in a central portion of each lobule, along with fatty infiltration is characteristic of carbon tetrachloride poisoning.

In the kidneys, fatty degeneration and necrosis of epithelial cells of the proximal tubules is extensive. The basement membranes of the tubules remain intact. This feature allows complete restoration of physiologic function of the kidney if the patient survives long enough for the tubular epithelium to regenerate. This same renal lesion may be caused by a large number of other conditions besides carbon tetrachloride poisoning.

Metabolism of carbon tetrachloride by the liver and perhaps the kidney produces potent epoxides. These by-products cause peroxidative decomposition of the structural lipids in liver cell membranes and thus destroy the various cells in which these alkylating agentsare formed.[7] The central lobular pattern of necrosis in the liver is determined by the distribution of the liver enzymes responsible for forming these toxic metabolites.

Diagnosis is supported by the history of exposure and by a strong chloroform-like odor of the breath. The presence of carbon tetrachloride can be confirmed by breath analysis using infrared spectography.[8] Because of slow elimination of carbon tetrachloride from the body, the compound

may be detected for several weeks after exposure. Fifty percent of carbon tetrachloride is exhaled unchanged from the body. No practical methods of detecting carbon tetrachloride in blood or urine is available. The recognition of use of carbon tetrachloride even in minute amounts in association with alcohol ingestion may provide the only clue to diagnosis.

In experimental animals, liver injury can be reduced by administration of antioxidants or hypothermia which reduce metabolic breakdown of carbon tetrachloride. It is not established that these measures are effective in man where renal injury usually is the critical lesion. Management of hepatitis due to carbon tetrachloride poisoning is the same as for a viral hepatitis.

Management of acute renal failure due to carbon tetrachloride and the technique of peritoneal dialysis can be obtained from general reviews of the subjects.[9,10] Overhydration should be carefully avoided, and control of hyperkalemia during the oliguric phase is necessary. Control of infection and electrolyte replacement as indicated are important. Initially, gastric lavage and use of magnesium sulfate to clean the bowel is indicated. Alcohol and fat solvents should be avoided.

The use of mannitol early in the course before the onset of oliguria will help rid the body of drugs and waste products before the oliguric phase begins, and may possibly reduce the severity or prevent the oliguric phase.[8] Twenty-five grams mannitol solution given intravenously during a three-minute period should be tried. If the urine flow does not exceed 40 ml per hour after the test dose, give a second test dose. If the urine flow exceeds 40 ml per hour after the test dose, titrate the amount of mannitol infusion against the urine output to maintain urine flow of approximately 100 ml/hour.

Overall prognosis is 80 to 90% recovery when artificial dialysis is used.[4] Death, in nearly all cases, is caused by renal failure and not liver injury. Patients with alcoholic intake, poor nutrition, previous liver injury and possibly intake of other drugs such as phenobarbital appear to be particularly susceptible to the toxic effects of carbon tetrachloride. The relatively short oliguric and diuretic phases, (median 7 and 8.5 days, respectively) and high survival rates suggest a more favorable prognosis in cases of carbon tetrachloride poisoning than in acute renal failure secondary to other causes.[3] There may be increased incidences of hepatocellular carcinoma as a long-term sequelae.[5]

Small quantities of carbon tetrachloride are still available over the counter in a few drug stores in this area. However, in view of recent restrictions requiring that carbon tetrachloride be dispensed only by prescription, none of the pharmacies plan to restock the material once present supplies are gone. It is assumed that this will further reduce the cases of human poisoning by carbon tetrachloride.

References

1. Gleason MW, Gosselin RE, Hodges HC, et al: Clinical Toxicology of Commercial Products. Baltimore, Williams and Williams Co, 1969, pp 65-67.

2. Friedman R, Eals L: Carbon tetrachloride poisoning, a report of three cases with commentaries. S A Med J 1067-1071, 1962.

3. New PS, Lubash GD, Scherr L, et al: Acute renal failure associated with carbon tetrachloride intoxication. JAMA 181:903-906, 1962.

4. Markham TN: Renal failure due to carbon tetrachloride. J Occupat Med 9:16-17, 1967.

5. Tracey JP, Sherlock P: Hepatoma following carbon tetrachloride poisoning. NY State J Med 68:2202-2204, 1968.

6. Kaye S: Carbon tetrachloride poisoning. Virginia Med Month 88-263-264, 1961.

7. Hashimoto S, Glende EA, Jr, Recknagel RO: Hepatic lipid peroxidation in acute fatal human carbon tetrachloride poisoning. New Eng J Med 279:1082-1085, 1968.

8. Stewart RD, Boettner EA, Southworth RR, et al: Acute carbon tetrachloride intoxication. JAMA 183:994-997, 1963.

9. Hedger RW: The conservative management of acute oliguria renal failure. Med Clin N Amer 55:121-135, 1971.

10. Dunea G: Peritoneal dialysis and hemodialysis. Med Clin N Amer 55:155-175, 1971.

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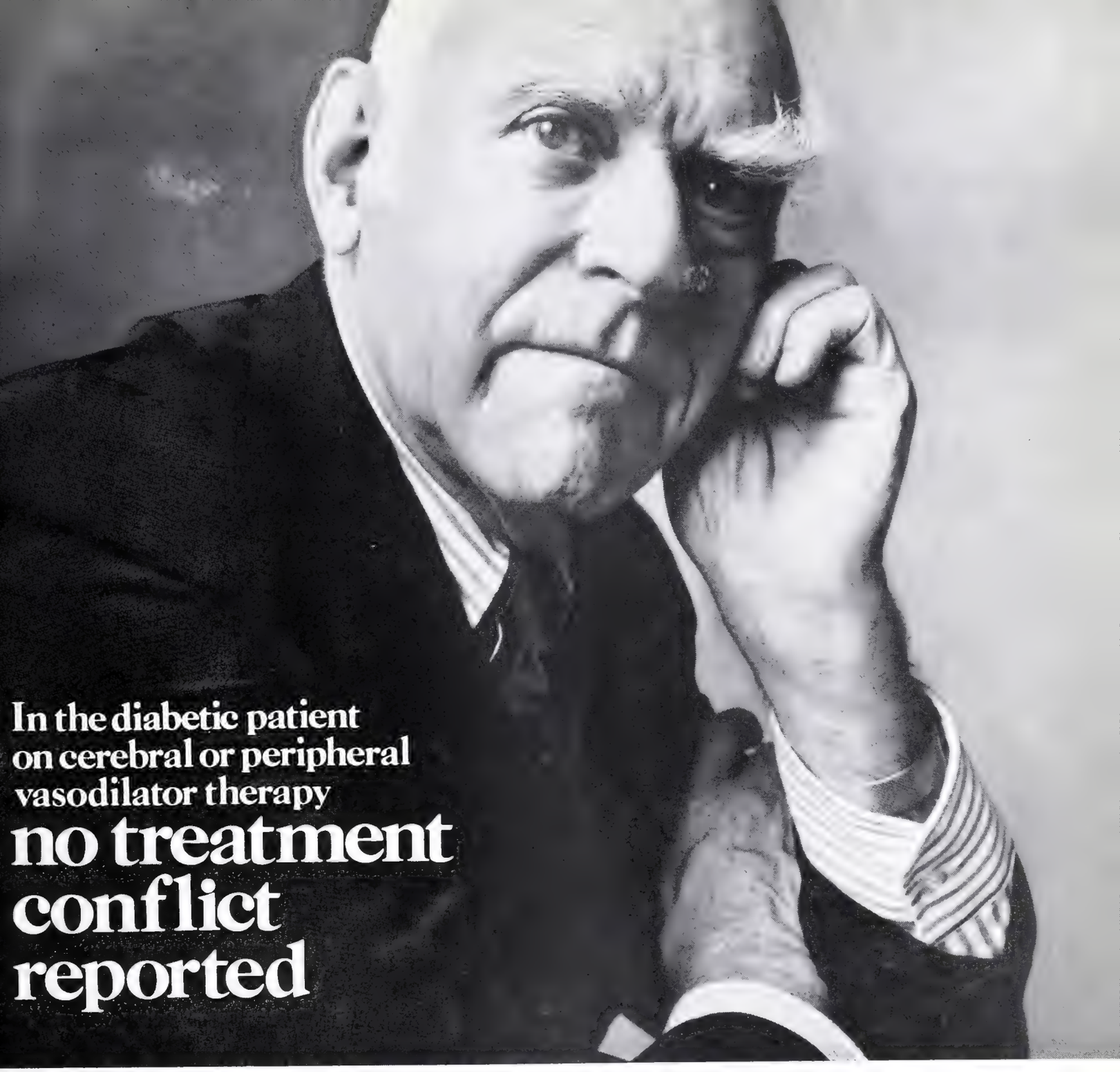

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SUPPLIED:
Tablets, 10 mg.—bottles of 100, 1000, 5000 and Unit Dose
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REFERENCE: 1. Samuels, S. S., and Shaftel, H. E.: J. Indiana Med. Ass. *54*:1021-1023 (July) 1961.

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ALL THYROID-FUNCTION TESTS ARE USEFUL IN MONITORING SYNTHROID THERAPY

No calculations are needed, test interpretation is simple.

Any of the commonly used T_4 thyroid function tests (P.B.I., T_4 By Column, Murphy-Pattee, Free Thyroxine) are useful in monitoring patients on T_4 because they *all* measure T_4. Patients on SYNTHROID are thereby easy to monitor because their results will fall within predictable, elevated test ranges. Of course, clinical assessment is the best criterion of the thyroid status of the drug-treated patient.

TEST	HYPOTHYROID	SYNTHROID THERAPEUTIC NORMAL
P.B.I.	Less than 4 mcg %	6-10 mcg %
T_4 By Column	Less than 3 mcg %	7-9 mcg %
T_3 (Resin)	Less than 25%	27-35%
T_3 (Red Cell)	Less than 11%	11.5-18%
Free Thyroxine	Less than 0.7 nanograms %	0.7-2.5 nanograms %
Murphy-Pattee	Less than 2.9 mcg %	4-11 mcg %

TWO GOOD REASONS WHY THE ROAD TO NORMALIZED THYROID STATUS IS SO SMOOTH FOR THE SYNTHROID PATIENT.

(1) The onset of action of T_4 is gradual. It has a long in vivo "half-life" of over six days. (Occasional missed doses or accidental double-doses are of less concern because of this factor)[1]; (2) since SYNTHROID contains only T_4, the potential for metabolic surges traceable to more potent iodides (T_3) is eliminated.

AS WITH ANY THYROID PREPARATION, CAUTIOUS OBSERVATION OF THE PATIENT DURING THE BEGINNING OF THERAPY WILL ALERT THE PHYSICIAN TO ANY UNTOWARD EFFECTS.

Side effects, when they do occur, are related to excessive dosage. Caution should be exercised in administering the drug to patients with cardiovascular disease. Read the accompanying prescribing information for additional data or write Flint Laboratories.

Choose the Smooth Road ...to thyroid replacement therapy

PATIENTS CAN BE SUCCESSFULLY MAINTAINED ON A DRUG CONTAINING THYROXINE ALONE.

Thyroxine (T_4) is, as you know, the major circulating hormone produced by the thyroid gland. T_3 is also produced, in smaller amounts, and is active at the cellular level. For years it has been a working hypothesis among endocrinologists that T_4 is converted by the body to T_3. In 1970 this process, called "deiodination," was demonstrated by Braverman, Ingbar, and Sterling[2]. T_4 does convert to T_3, though the precise quantities are still being studied.

The conversion has been clinically demonstrated during the administration of T_4 to athyrotic patients. Their thyroid status is normalized on SYNTHROID alone, yet the presence of T_3 in these patients has been clearly shown.

WHY DOES SYNTHROID COST LESS THAN SYNTHETIC DRUGS CONTAINING T_3?

Very simple. T_3 costs more to make synthetically than does T_4. So it is economically necessary for a synthetic thyroid medication containing T_3 to cost more than one containing T_4 alone. Synthetic combinations cost patients nearly 50% more than SYNTHROID[3] because the T_3 costs more to start with; also there is the additional expense of formulating a tablet containing two active ingredients.

1. Latiolais, C. J., and Berry, C. C.: Misuse of Prescription Medications by Outpatients, *Drug Intelligence & Clin. Pharm.* 3:270-7, 1969.
2. Braverman, L. E., Ingbar, S. H., and Sterling, K.: Conversion of Thyroxine (T4) to Triiodothyronine (T3) in Athyreotic Human Subjects, *J. Clin. Invest.* 49:855-64, 1970.
3. American Druggist BLUEBOOK, March, 1971.

Synthroid®
(sodium levothyroxine)

THE FACTS ARE CLEAR AND HERE IS OUR OFFER.

FACTS:
Synthetic thyroid drugs are an improvement over animal gland products. Patients, even athyrotic ones, can be completely maintained on SYNTHROID (T_4) alone. Thyroid function tests are easy to interpret since they are *predictably* elevated when the patient adheres to SYNTHROID. Of all synthetic thyroid drugs, SYNTHROID is the most economical to the patient.

OFFER:
Free TAB-MINDER medication dispensers to start or convert all your hypothyroid patients to SYNTHROID. Free information to physicians on role of thyroid function tests in a new booklet titled: "Guideposts to Thyroid Therapy." Ask us.

Name _____

Address _____

City _____ State _____ Zip _____

Indications: SYNTHROID (sodium levothyroxine) is specific replacement therapy for diminished or absent thyroid function resulting from primary or secondary atrophy of the gland, congenital defect, surgery, excessive radiation, or antithyroid drugs. Indications for SYNTHROID (sodium levothyroxine) **Tablets** include myxedema, hypothyroidism without myxedema, hypothyroidism in pregnancy, pediatric and geriatric hypothyroidism, hypopituitary hypothyroidism, simple (nontoxic) goiter, and reproductive disorders associated with hypothyroidism. SYNTHROID (sodium levothyroxine) **for Injection** is indicated for intravenous use in myxedematous coma and other thyroid dysfunctions where rapid replacement of the hormone is required. The injection is also indicated for intramuscular use in cases where the oral route is suspect or contraindicated due to existing conditions or to absorption defects, and when a rapid onset of effect is not desired.

Precautions: As with other thyroid preparations, an overdosage may cause diarrhea or cramps, nervousness, tremors, tachycardia, vomiting and continued weight loss. These effects may begin after four or five days or may not become apparent for one to three weeks. Patients receiving the drug should be observed closely for signs of thyrotoxicosis. If indications of overdosage appear, discontinue medication for 2-6 days, then resume at a lower dosage level. In patients with diabetes mellitus, careful observations should be made for changes in insulin or other antidiabetic drug dosage requirements. If hypothyroidism is accompanied by adrenal insufficiency, as Addison's Disease (chronic subcortical insufficiency), Simmonds's Disease (panhypopituitarism) or Cushing's syndrome (hyperadrenalism), these dysfunctions must be corrected prior to and during SYNTHROID (sodium levothyroxine) administration. The drug should be administered with caution to patients with cardiovascular disease; development of chest pains or other aggravations of cardiovascular disease requires a reduction in dosage.

Contraindications: Thyrotoxicosis, acute myocardial infarction. **Side effects:** The effects of SYNTHROID (sodium levothyroxine) therapy are slow in being manifested. Side effects, when they do occur, are secondary to increased rates of body metabolism; sweating, heart palpitations with or without pain, leg cramps, and weight loss. Diarrhea, vomiting, and nervousness have also been observed. Myxedematous patients with heart disease have died from abrupt increases in dosage of thyroid drugs. Careful observation of the patient during the beginning of any thyroid therapy will alert the physician to any untoward effects.

In most cases with side effects, a reduction of dosage followed by a more gradual adjustment upward will result in a more accurate indication of the patient's dosage requirements without the appearance of side effects.

Dosage and Administration: The activity of a 0.1 mg. SYNTHROID (sodium levothyroxine) TABLET is equivalent to approximately one grain thyroid, U.S.P. Administer SYNTHROID tablets as a single daily dose, preferably after breakfast. In hypothyroidism without myxedema, the usual initial adult dose is 0.1 mg. daily, and may be increased by 0.1 mg. every 30 days until proper metabolic balance is attained. Clinical evaluation should be made monthly and PBI measurements about every 90 days. Final maintenance dosage will usually range from 0.2-0.4 mg. daily. In adult myxedema, starting dose should be 0.025 mg. daily. The dose may be increased to 0.05 mg. after two weeks and to 0.1 mg. at the end of a second two weeks. The daily dose may be further increased at two-month intervals by 0.1 mg. until the optimum maintenance dose is reached (0.1-1.0 mg. daily).

Supplied: Tablets: 0.025 mg., 0.05 mg., 0.1 mg., 0.15 mg., 0.2 mg., 0.3 mg., 0.5 mg., scored and color-coded, in bottles of 100, 500, and 1000. Injection: 500 mcg. lyophilized active ingredient and 10 mg. of Mannitol, N.F., in 10 ml. single-dose vial, with 5 ml. vial of Sodium Chloride Injection, U.S.P., as a diluent. SYNTHROID (sodium levothyroxine) **for Injection** may be administered intravenously utilizing 200-400 mcg. of a solution containing 100 mcg. per ml. If significant improvement is not shown the following day, a repeat injection of 100-200 mcg. may be given.

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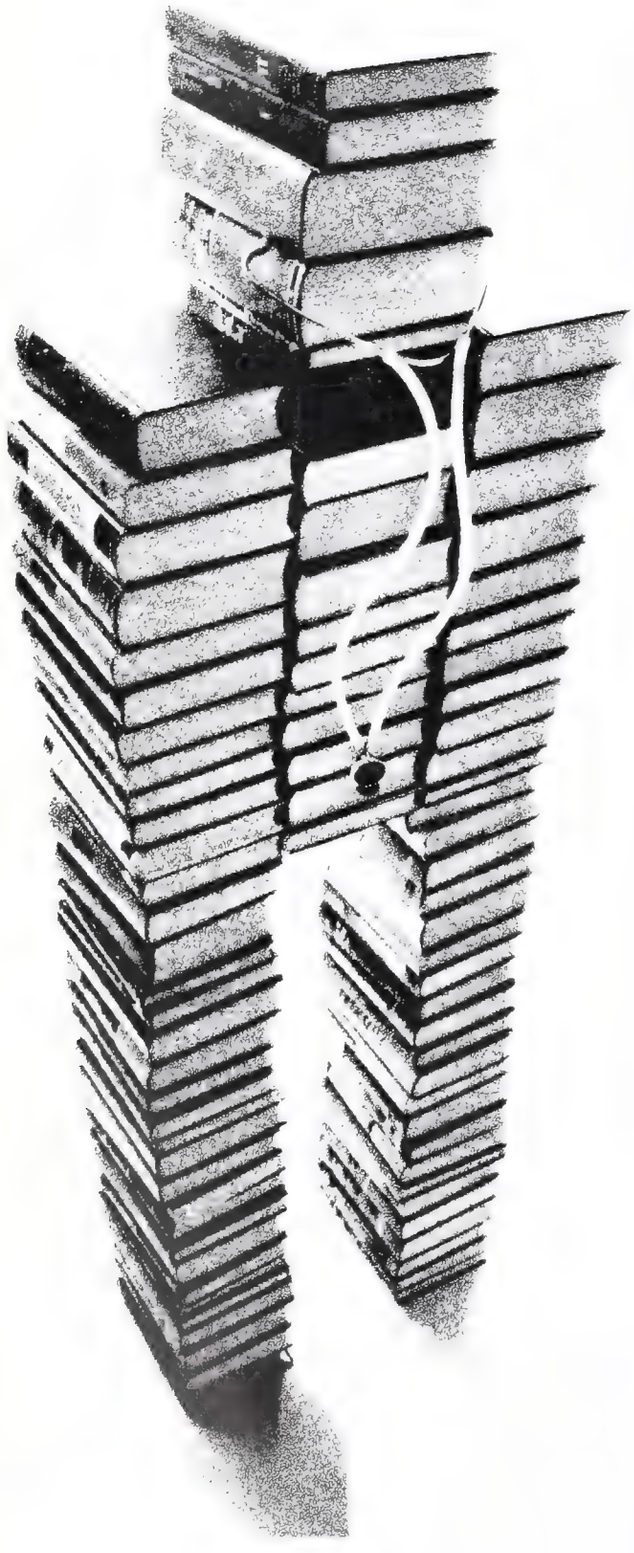
DIVISION OF TRAVENOL LABORATORIES, INC
Morton Grove, Illinois 60053



Anatomy of a Doctor.

You know what it takes to make a doctor. The motivation. The years of study and training. The dedication. The hard work.

But from the criticism leveled at doctors lately you'd think neither the public nor press had any idea.

It may surprise you, but the public does.

This was evidenced in a recent Harris Poll. In measuring public respect for U.S. leadership, it showed a drastic drop in the past five years. And "a majority of Americans is currently willing to express a 'great deal of confidence' in only one profession—medicine—on a list covering 16 types of activity." And that list included Congress and the Supreme Court.

People still look at their doctors as men to be respected and as men of integrity.

This is the true story of the American doctor. And one which the AMA is constantly telling the public as part of its communications program.

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We can be an even more effective spokesman...with your support. Find out more about what the AMA does for you and the public. Send for a free pamphlet. Write: Dept. DW, at the address below.

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535 North Dearborn Street/Chicago, Illinois 60610

A pictorial review

Radiographic findings in Turner's syndrome

Michael K. Armstrong, MD; L. B. Morettin, MD

Definition

Henry Turner first described the clinical syndrome of sexual infantilism, webbing of the skin of the neck, and cubitus valgus deformity in apparent females. The principal features include: (1) primary amenorrhea, absence of development of secondary sexual characteristics and infantile internal female genitalia with gonadal tissue limited to a primitive streak in the broad ligaments that histologically cannot be identified as ovary; (2) short stature (almost always less than 152 cm; (3) increased carrying angle of the arms (cubitis valgus); (4) webbed neck; (5) shield chest and hypoplastic nipples; (6) mental deficiency; (7) nerve deafness; (8) lymphangiectatic edema; (9) coarctation of the aorta; (10) renal anomalies; (11) hypertension of unknown cause; (12) skeletal asymmetry and other skeletal anomalies (some characteristic); (13) color blindness; (14) cutis laxa; and (15) multiple nevi.

The complex is caused by a chromosomal abnormality, 80% of patients have only 45 instead of the normal 46 chromosomes and have a 44-XO pattern. This is usually due to nondysjunction in either father or mother and mosaicism also can occur.

Synonyms

Varney-Turner syndrome, Bonnevie-Ullrich syndrome, Albright's syndrome, webbing syndrome of Ullrich-Turner, ovarian agenesis, ovarian dysgenesis, gonadal agenesis, gonadal dysgenesis, pterygolymphangiectatic infantilism and others.

Related Entities

Ullrich Syndrome: Physical characteristics of Turner's syndrome, but with normal ovaries, sexual function and karyotype.
Male Turner's Syndrome: Turner's physical characteristics, normal karyotype, sterility and abnormal testicular histology primarily consisting of seminiferous tubular hypoplasia and azospermia.
Noonan's Syndrome (Ullrich Syndrome in the Male): Turner's physical characteristics, normal karyotype, normal testes and normal sexual function.
Bonnevie-Ullrich Syndrome: Infantile Turner's syndrome with prime clinical features of neck webbing, lymphangiectatic edema of the extremities and certain other variable features including shortness of stature, cubitus valgus, deformities of the toes, deformities of the nails and coarctation of the aorta.

Radiographic Findings

Skeletal Maturation: Normal or slightly delayed until age 15, then delayed epiphyseal closure which is present in almost 100% of patients who have not received exogenous estrogens (Fig 13).
Short Stature: Rarely over 152 cm in height.
Bone Mineralization: Almost universally depressed, especially in older patients. Osteoporosis with scarce but well calcified trabeculae (Figs 1-13).
Hands: Relative shortening of the fourth metacarpal, present in 50-75% of patients (positive metacarpal sign) (Figs 1, 2).
Wrists: Positive carpal angle in 50% of patients, 117° or less (Fig 2).
Knees: Tibia vara-like deformity without bowing. The medial tibial plateaus become depressed and the medial femoral condyles enlarge. There is frequently a beak-like projection from the widened medial tibial metaphysis that may appear as an exostosis. Found in 50% of cases (Fig 3).
Elbows: Cubitus valgus deformity, difficult to evaluate radiographically (Fig 4).
Spine: Hypoplastic C-1 found in over 50%. The posterior arch of C-1 is thin and delicate. C-1 may be fused to the occiput and

its posterior arch may be incompletely fused. Irregular vertebral plates as in Scheuermann's disease, decreased anteroposterior diameter of the vertebral bodies with a square appearance, increased frequency of spina bifida and vertebral body fusion (Figs 5, 6).
Skull: Small bridged sella, well developed sinuses, (especially the sphenoid), increased basal angle, hypertelorism, hypoplasia of the mandible, or squared-off resembling the male configuration. None of these findings is specific or sufficiently common to be of much value (Fig 7).
Pelvis: Delayed apophysis closure, male configuration (Fig 13).
Clavicles: Lack of modeling with hypoplasia or a thin tapering lateral portion.
Ribs: Uneven in caliber with posterior narrowing (paddle-shaped), pseudonotching (Fig 8).
Soft Tissues: Neck webbing and edema of hands and feet (Figs 9, 10).
Visceral: Coarctation of the aorta with its secondary findings (most common in paties with severe neck webbing). Rotational and segmentation anomalies of the kidneys (horseshoe kidney in 25%) (Figs 11-13).

Summary of Signs with Strong Diagnostic Correlation

1. Positive metacarpal sign.
2. Positive carpal angle.
3. Tibia vara-like deformity of the knees.
4. Hypoplasia of the first cervical vertebra.
5. Delayed epiphyseal closure.

Acknowledgements
Figs 9, 10 and 11 from: Swischuk LE, Radiology of the Newborn and Young Infant. Baltimore, Williams and Wilkins Co, (in press).

References

1. Albright F, Smith PH, Fraser R: Syndrome characterized by primary ovarian insufficiency and decreased stature: report of 11 cases with regression of hormonal control of axillary and pubic hair. Amer J Med Sci 204: 625-648, 1942.

2. Archibald RM, Finby N, Devito F: Endocrine significance of short metacarpals. J Clin Endocr, 19:1312-1322, 1959.

3. Finby N, Archibald RM: Skeletal abnormalities associated with gonadal dysgenesis. Amer J Roentgenol, 89:1222, 1963.

4. Ford CE, Jones KW, Polani PE, et al: A sex chromosome anomaly in a case of gonadal dysgenesis (Turner's syndrome). Lancet 1:711-713, 1959.

5. Kosowicz J: The deformity of the medial condyle in 19 cases of gonadal dysgenesis. J Bone Joint Surg 42-A: 600, 1960.

6. Levin B: Gonadal dysgenesis. Clinical and roentgenologic manifestations. Amer J Roentgenol 87:1116-1127, 1962.

7. Oberman JW: Prepubertal diagnosis of ovarian agenesis and its relationship to status Bonnevie-Ullrich. J Pediat 47:48-59, 1955.

8. Polani PE: Turner's syndrome and allied conditions: clinical features and chromosome abnormalities.Brit M Bull 72:200-205, 1961.

9. Polani PE, Hunter WF, Lennox B: Chromosomal sex in Turner's syndrome with coarctation of the aorta. Lancet 267:120-121, 1954.

10. Silver HK: Symmetric form of Bonnevie-Ullrich syndrome (syndrome of webbing of the neck, lymphagiectatic edema, shortness of stature, cubitus valgus and deformities of the toes). Pediatrics 17:725-731, 1956.

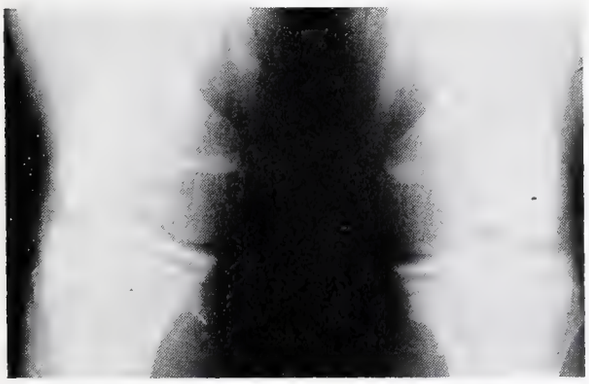
11. Turner HH: Syndrome of infantilism, congenital webbed neck and cubitus valgus. Endocrinology 23:566-574, 1938.

12. Varney, RF, Kenyon A, Koch F: An association of short stature, retarded sexual development and high urinary gonadotropin titers in women. J Clin Endocr 2:137, 1942.

Dr. Armstrong, 3011-59 Street, Lubbock, Texas 79413.
Dr. Morettin, Associate Professor of Radiology, Department of Radiology, The University of Texas Medical Branch, Galveston, Texas 77550.

1. Marked shortening of the fourth metacarpal. This example is rather exaggerated with the fourth metacarpal being shorter than the fifth.

2. A line drawn just touching the distal ends of the fourth and fifth metacarpals should not touch or intersect the tip of the third metacarpal in the normal. When this line intersects the head of the third metacarpal, the sign is positive. The carpal angle is formed by the intersection of two tangents, the first touching the proximal contour of the navicular and the lunate bones and the second touching the triangular and the lunate bones. The mean normal angle is 131.5°. Fifty percent of the patients with Turner's syndrome will have a carpal angle of 117° or less with only 4.5% of normal subjects having this acute an angle. A carpal angle is positive if it is 117° or less.

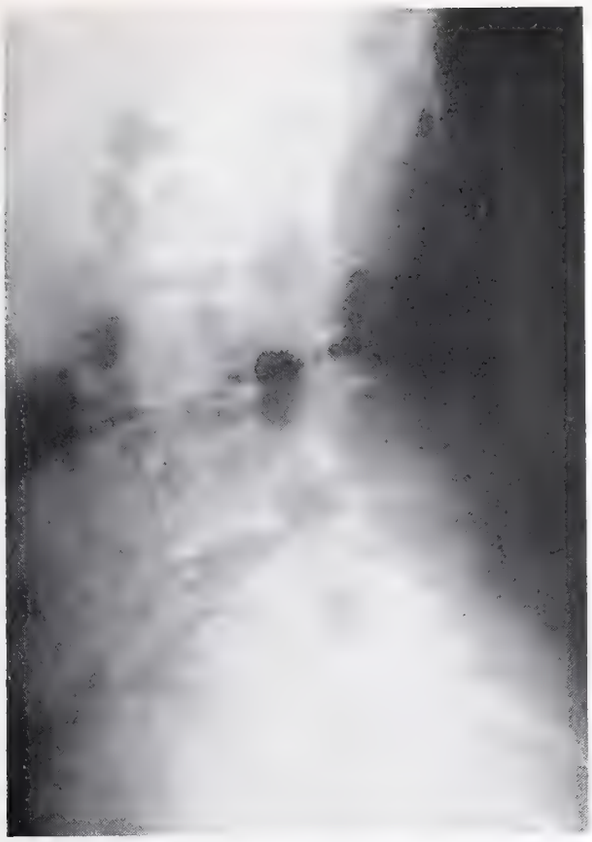


3. Tibia vara-like deformity of the knees with depression and spreading of the medial tibial plateaus and concomitant enlargement of the medial femoral condyles. The white arrow points to a frequently seen beak-like projection from the widened medial tibial metaphysis.

4. Cubitus valgus deformity is difficult to demonstrate radiographically, primarily because a slight degree of flexion can simulate the deformity. This example, however, does show a radial tilt of the articular surface of the trochlea with compensatory medial bowing of both the radius and the ulna.

5. C-1 is hypoplastic with a delicate and thin posterior arch (*). The white arrow points to a congenital fusion of C-6 and C-7. Fusion is found rather frequently in patients with Turner's syndrome.

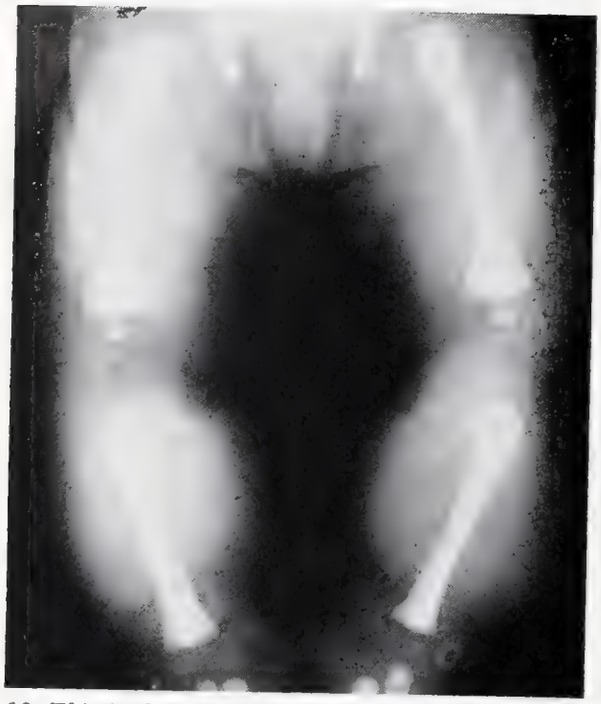
7. a. Small bridged sella with a well developed sphenoid sinus. b. The sella is also small and, although the child is 9 years old, it has not assumed an adult configuration.



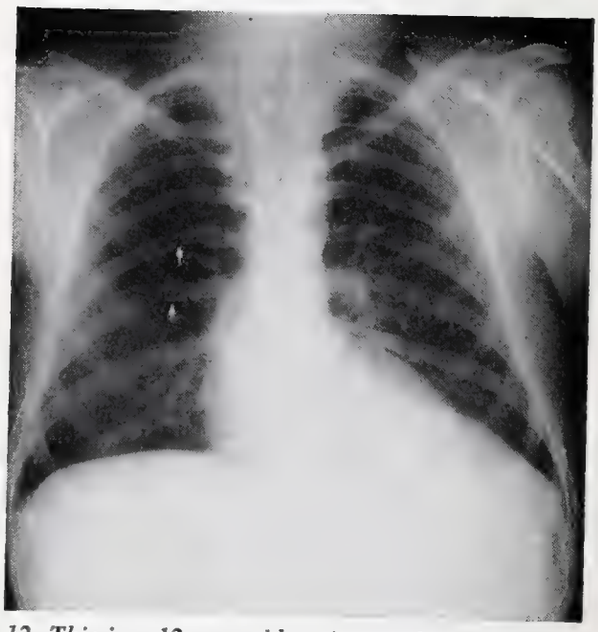
6. Note square appearance of the vertebral bodies along with osteoporosis and irregular vertebral plates.

8. Posterior narrowing of the ribs giving them a paddle shape.

9. This is an infant with infantile Turner's syndrome or Bonnevie-Ullrich syndrome. Note the excess of skin and soft tissue about the neck. There is air in the ventricular system from a previous pneumoencephalogram. Because of the large mass of soft tissue, an encephalocele was suspected.

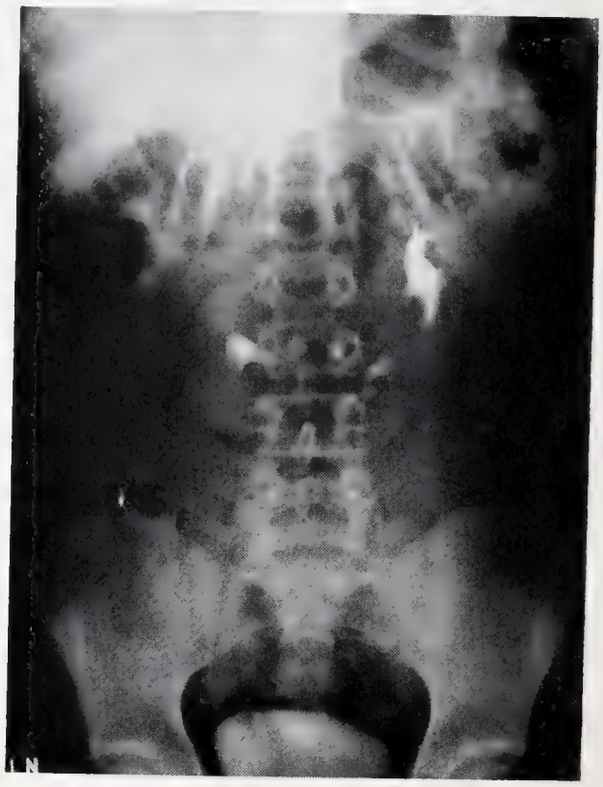


10. This is the same infant as in figure 9 demonstrating marked soft tissue edema of the legs which was non-pitting.



12. This is a 12-year-old patient with Turner's syndrome and a severe coarctation of the aorta demonstrating rib notching (white arrows).

13. Typical appearance of a horseshoe kidney. Although this patient is 18 years old, her iliac crest apophyses have yet to appear (white arrow).

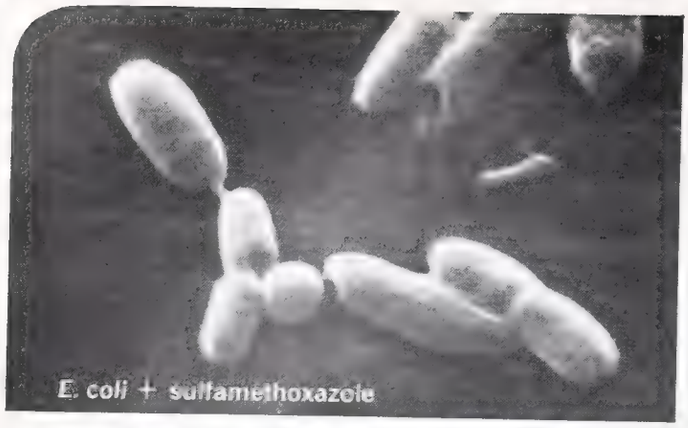


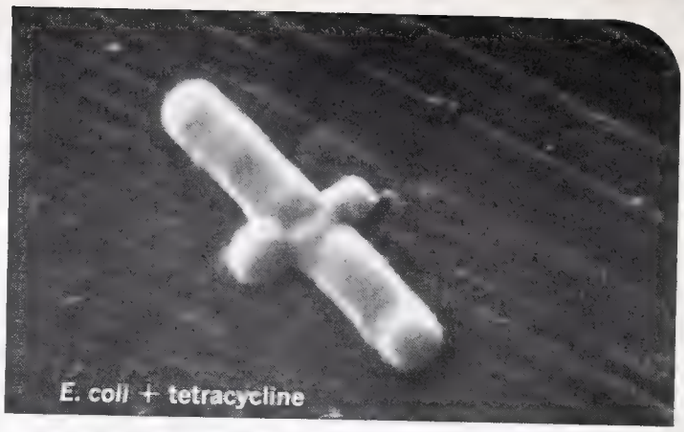
11. An angiocardiogram on the same patient with a tight post-ductal coarctation of the aorta. Note the exuberant collaterals.

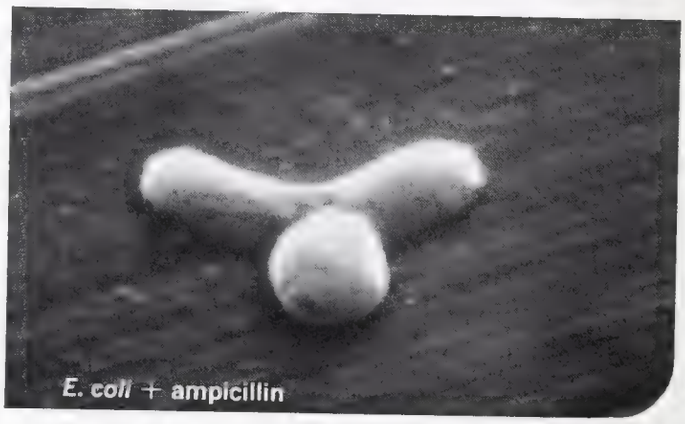
Encounter under the Scanning Electron Microscope

SEM reveals changes in *E. coli* exposed to antibacterial agents

The Scanning Electron Microscope (SEM) is the only instrument which gives 3-dimensional views on a microscopic level. This permits the surface morphology of microorganisms to be observed in detailed perspective. Changes in surface morphology of *E. coli* exposed to various antimicrobial agents are seen on the following page. An SEM photomicrograph of normal control *E. coli* appears above.







Different modes of antibacterial action — Similar changes in morphology

As part of a series of experiments,[1-3] strains of *E. coli* proven susceptible to each antibacterial agent were exposed to 1 MIC of the respective antibacterials for a three-hour period. Included were cell-wall-active drugs, ampicillin and cephalothin; a drug interfering with intracellular protein synthesis, tetracycline; and a chemical agent which acts by interference with para-aminobenzoic acid, sulfamethoxazole.

As seen above, elongation of the bacilli, mid-cell defects and spheroplast-like forms may be appreciated with the SEM technique. These changes in bacterial morphology were similar... regardless of the antibacterial agent used and irrespective of its mechanism of action.

"At present, the significance of these observations in clinical infection must be considered with caution, but it is hoped that these data will stimulate a reevaluation of present concepts of the nature and role of morphological variants of bacteria exposed to a variety of antibacterial factors."[2]

It should be noted that no clinical conclusions can be drawn from this study, as it is not always possible to extrapolate *in vitro* data to humans.

References: 1. Klainer, A. S.; Fass, R. J., and Perkins, R. L.: Scientific Exhibit presented at the 25th American Medical Association Clinical Convention, New Orleans, La., Nov. 28-Dec. 1, 1971. **2.** Klainer, A. S., and Perkins, R. L.: *Antimicrob. Agents Chemother., 1*:164, 1972. **3.** Klainer, A. S.: Data on file, Hoffmann-La Roche Inc., Nutley, N.J.

Before prescribing, please consult complete product information, a summary of which follows:

Indications: Acute, recurrent or chronic nonobstructed urinary tract infections (primarily pyelonephritis, pyelitis and cystitis) due to susceptible organisms. **Note: Carefully coordinate *in vitro* sulfonamide sensitivity tests with bacteriologic and clinical response; add aminobenzoic acid to follow-up culture media. The increasing frequency of resistant organisms limits the usefulness of antibacterials including sulfonamides, especially in chronic or recurrent urinary tract infections.** Measure sulfonamide blood levels as variations may occur; 20 mg/100 ml should be maximum total level.

Contraindications: Sulfonamide hypersensitivity; pregnancy at term and during nursing period; infants less than two months of age.

Warnings: Safety during pregnancy has not been established. Sulfonamides should not be used for group A beta-hemolytic streptococcal infections and will not eradicate or prevent sequelae (rheumatic fever, glomerulonephritis) of such infections. Deaths from hypersensitivity reactions, agranulocytosis, aplastic anemia and other blood dyscrasias have been reported and early clinical signs (sore throat, fever, pallor, purpura or jaundice) may indicate serious blood disorders. Frequent CBC and urinalysis with microscopic examination are recommended during sulfonamide therapy. Insufficient data on children under six with chronic renal disease.

Precautions: Use cautiously in patients with impaired renal or hepatic function, severe allergy, bronchial asthma; in glucose-6-phosphate dehydrogenase-deficient individuals in whom dose-related hemolysis may occur. Maintain adequate fluid intake to prevent crystalluria and stone formation.

Adverse Reactions: *Blood dyscrasias* (agranulocytosis,

Encounter in Clinical Practice

Control of primary bacterial offenders

Antibacterial Gantanol® (sulfamethoxazole) controls susceptible strains of *E. coli* and other gram-negative and gram-positive organisms often implicated in acute nonobstructed pyelonephritis and cystitis.

Prompt antibacterial blood and urine levels

In from 2 to 3 hours after the initial 2-Gm adult dose, antibacterial levels are present in both the blood and urine.

B.I.D./T.I.D. dosage for around-the-clock coverage

Subsequent 1-Gm doses provide up to 12 hours of antibacterial coverage. More severe u.t.i. may require a q. 8 h. dosage regimen. Either schedule provides coverage during the waking and sleeping hours—especially important during hours of sleep when normal urinary retention tends to favor bacterial proliferation.

Also effective in nonobstructed chronic and recurrent u.t.i.

It is not uncommon for the elderly and the debilitated to develop chronic and/or recurrent nonobstructed urinary tract infections such as pyelonephritis and cystitis. Such cases often respond satisfactorily to Gantanol. The increasing frequency of resistant organisms is a limitation of usefulness of antibacterial agents including sulfonamides, especially in chronic or recurrent u.t.i.

Your Option: Tablets or Suspension

Either dosage form—the Tablets or the pleasant-tasting, cherry-flavored Suspension—can provide the dependable antibacterial activity necessary to control susceptible nonobstructed cystitis and pyelonephritis. Symptomatic improvement may usually be expected in 24 to 48 hours. The usual precautions with sulfonamide therapy should be observed, including adequate fluid intake. Gantanol (sulfamethoxazole) is generally well tolerated with relative freedom from complications; the most common side effects are nausea, vomiting and diarrhea. Frequent c.b.c.'s and urinalyses with microscopic examination are recommended.

In nonobstructed cystitis and pyelonephritis due to susceptible organisms

Gantanol®
(sulfamethoxazole)
Basic Therapy

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aplastic anemia, thrombocytopenia, leukopenia, hemolytic anemia, purpura, hypoprothrombinemia and methemoglobinemia); *allergic reactions* (erythema multiforme, skin eruptions, epidermal necrolysis, urticaria, serum sickness, pruritus, exfoliative dermatitis, anaphylactoid reactions, periorbital edema, conjunctival and scleral injection, photosensitization, arthralgia and allergic myocarditis); *gastrointestinal reactions* (nausea, emesis, abdominal pains, hepatitis, diarrhea, anorexia, pancreatitis and stomatitis); *CNS reactions* (headache, peripheral neuritis, mental depression, convulsions, ataxia, hallucinations, tinnitus, vertigo and insomnia); *miscellaneous reactions* (drug fever, chills, toxic nephrosis with oliguria and anuria, periarteritis nodosa and L.E. phenomenon). Due to certain chemical similarities with some goitrogens, diuretics (acetazolamide, thiazides) and oral hypoglycemic agents, sulfonamides have caused rare instances of goiter production, diuresis and hypoglycemia as well as thyroid malignancies in rats following long-term administration. Cross-sensitivity with these agents may exist.

Dosage: Systemic sulfonamides are contraindicated in infants under 2 months of age (except adjunctively with pyrimethamine in congenital toxoplasmosis).

Usual adult dosage: 2 Gm (4 tabs or teasp.) initially, then 1 Gm *b.i.d.* or *t.i.d.* depending on severity of infection.

Usual child's dosage: 0.5 Gm (1 tab or teasp.)/20 lbs of body weight initially, then 0.25 Gm/20 lbs *b.i.d.* Maximum dose should not exceed 75 mg/kg/24 hrs.

Supplied: Tablets, 0.5 Gm sulfamethoxazole; Suspension, 0.5 Gm sulfamethoxazole/teaspoonful.

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by Mary Jane Schier

Houston MD tackles football injuries

Dr. Cameron's shoe features a fixed heel bar with a diagonal slot designed to permit lateral movement, and a sealed, metallic forefront turntable with a molded sole on which four cleats are mounted.

For most of his professional life, Houston orthopedic surgeon Bruce M. Cameron has had an interest that promises to pay off soon in the form of preventing many football injuries.

Dr. Cameron has been keenly interested in doing something to reduce the high number of both major and minor knee and ankle injuries sustained on the gridiron each season. His perseverance during some 20 years of studying sports-related injuries has finally resulted in the development of a swivel-soled shoe that permits players more mobility and, in turn, significantly lowers the incidence of injury.

Dr. Cameron, a TMA member since 1950, believes that with widespread use of the swivel shoe the "terrible epidemic" of knee and ankle injuries across the United States could be cut by at least 70%.

In published reports, Dr. Cameron disclosed that wearing his swivel shoe meant a reduction of knee and ankle injuries to only 5%—compared with 18% suffered by youths wearing regular football shoes.

"My entire aim since all of this started," the physician said, "is to make football—and eventually other sports where sudden change of direction is necessary—safer."

He cites these statistics to demonstrate the need for his work:

- In 1972, more than 855,000 high school boys will have participated in football.
- In this group alone, there will have been about 140,000 knee and ankle injuries of varying types. At least 50,000 of these will require knee surgery.

"That's a staggering figure, really, when you stop and think about it. . . . The cost alone is prohibitive but even worse are the lasting effects—some boys will become crippled, others will suffer with arthritis and still more have other permanent complications," Dr. Cameron explained.

Having performed about 1,000 knee operations on athletes in his 23-year career, the orthopedic surgeon says that with the exception of knee and ankle injuries, injuries common to football have been sharply curtailed. Better protective equipment, rule changes, player conditioning, and greatly improved coaching methods have contributed to making the game safer in most respects. But although head, eye, facial, dental, spinal, chest, abdominal, trunk, upper extremity, and thigh injuries have dropped, knee and ankle mishaps persist.

"The question over and over was why?"

After earning his medical degree from The University of Texas Medical Branch in 1944 and doing sea duty on a destroyer in the Pacific, a young Dr. Cameron went to Mayo Clinic as a fellow in orthopedic surgery. Upon completion of work at Rochester in late 1949, he moved to Houston to become affiliated with Baylor College of Medicine, where he now is an assistant professor of orthopedics.

"My first real research leading up to all these shoes," the physician remem-

These photos illustrate some of the ways in which players can be injured during a football game. Dr. Cameron feels his swivel shoe, which allows more freedom of movement, can reduce injury rates in situations such as these.

bers, "was in the early '50s when I began looking seriously at the effect of torque, the force that results in a twisting motion (torsion), that occurs when two parts of a fracture or joint abnormally revolve against one another. It is the torque that is the real problem—it's an unnatural twisting, and that is what produces so many injuries."

From his extensive torque studies—published in 1966 as *Shaft Fractures and Pseudoarthroses*[1]—grew the orthopedist's conviction that the answer had to lie in a better shoe, one that would allow the players to turn more easily.

Dr. Cameron estimates he has designed, tested, abandoned, and redesigned nearly 500 shoe soles and supervised perhaps 5,000 changes in those models before getting what he now feels is "the right one."

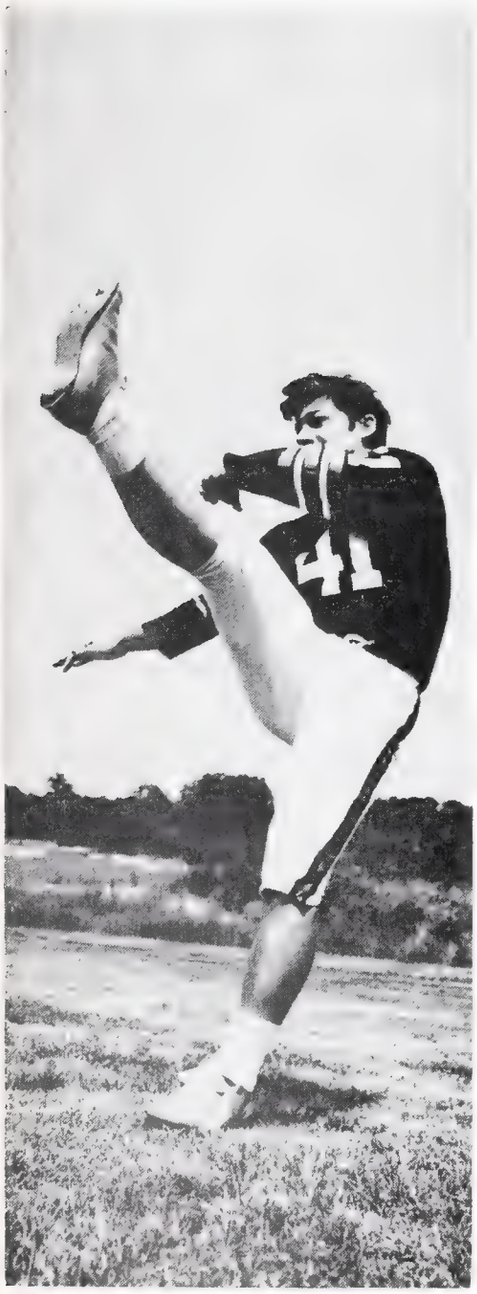
The doctor's research turned up information that "someone, somewhere between 1890 and 1900, nailed cleats onto the bottom of football shoes. No one seems to know why, but for the next 60 years or so we had these awful things that in the end analysis seemed to be the only common denominator we could see in the growing number of knee and ankle injuries."

Dr. Cameron says cleats are unnatural, if one is to assume Mother Nature knew what she was doing about human feet. The normally smooth sole absorbs energy and provides man with an escape mechanism when hit. But put

1. Published by Charles C Thomas, Springfield, Ill.

Dr. Cameron developed and discarded dozens of other models before he came up with a football shoe which he feels can significantly reduce injury rates.

Photos courtesy of DuPont magazine and Dr. Cameron.



Dr. Cameron says getting boys at the high school level to wear the swivel shoe is no problem. It takes about a week for the player to become adjusted to the new shoe, but once he does, "he's happy in it."

those seven traditional rigid cleats on the bottom of the shoes, and, presto! the injuries are astronomical.

Take the case of the line backer who charges off to smash a power sweep. An opposing player hits him on the blind side and the defender's body, rotating from his hips, turns with the impact, but he finds that his cleats are dug into the turf.

"The youth's thigh goes one way, the shin bone goes another and the torque or twist works like a giant screwdriver. Because the knee is a weak weight-bearing joint, the force is directed to the ligaments. Something has to give," Dr. Cameron observed. "All too often it is the young man's knees."

Even though other researchers recommended removing heel cleats altogether, Dr. Cameron was certain a new kind of cleat would be the best solution, since players need cleats for traction.

"Even in barefeet, boys can get a knee or ankle injury. . . . No, the answer had to come with a better cleat, one that would rotate and absorb some of the torsion from the knee or ankle. To do that, we had to have only a single, central axis about which the forefoot lever or ball of the foot would rotate."

Shorter front cleats came next, but even this change did not cause a great drop in knee and ankle injuries. Then came artificial playing turf which was supposed to lessen injuries because the feet would be held less rigidly than on regular grass. But man-made turfs didn't do all they were billed to do.

"Besides," Dr. Cameron notes, "high schools just cannot afford artificial turf and even many colleges can't buy it either."

The direction of his efforts to find a better football shoe has always been toward teenagers. If boys ages 14-19 have the safest shoe possible, more injuries will be prevented because this is the largest single age group playing football (855,000 in high school vs. 200,000 in college and 2,000 in professional and semi-professional ranks). Moreover, the younger players are more amenable to equipment changes.

Dr. Cameron insists that boys much under 14 years should not wear any kind of cleated football shoe—only tennis shoes—because boys at the junior high level can be injured beyond repair.

About 1962, Dr. Cameron began studying shoes seriously. "I never intended to become a shoe designer full-time but the more I got into this the more complicated it was," he says.

His first shoe—now bronzed and occupying a prominent place in his crowded office—had one brass bearing and a steel plate which weighed more than an entire football shoe does today. Many of the dozens of other models developed and discarded in the interim are tossed helter-skelter into an oversize cardboard box that leans in a corner.

The most fortunate development in his shoe studies was Dr. Cameron's firm friendship with Otho Davis, athletic trainer for the Baltimore Colts. At the time Davis learned of the Houston physician's research, he was assistant professor of physical education and head athletic trainer at Duke University. Together, the two men have combined expertise and salesmanship to fashion a shoe that should help not only football players, but baseball, soccer and golf enthusiasts as well.

With two bad knees from his own football days, and having seen more injuries than he can remember, Davis was a willing helpmate. The two tried every conceivable material for their swivel sole and cleats before settling on DuPont's "Surlyn" ionomer resin.

"It was the only material we came across with lightness, flexibility, good wearing life and moisture resistance.

It also has the strength to hold the plate that holds the cleat," the physician said. The upper portion of the shoe can be made of whatever materials have been popular—it's the sole that matters.

Meanwhile, Davis designed a heel bar with a diagonal slot in the center to allow for lateral movement of the heel.

Testing the swivel-soled shoes took time and patience, but Dr. Cameron believes the first studies, done in cooperation with Duke's Department of Computer Science, showed the true value of the shoes. Nearly 3,000 high school football players from 15 teams in the Durham, N.C., area were involved in the studies. After using the shoes for a season, the players were divided into injury groups. A control group of 2,055 players wearing conventional, low-quarter shoes had 162 knee and 174 ankle injuries or a total of 16.34 incidence rate; with cleats taken off the heels and some kind of plate substituted, the injury rate was cut to 13.46%; with short, multi-studded (½") cleats (soccer shoes), the rate was 10.9%; and 466 players who wore swivel shoes had only 10 knee and 14 ankle injuries, or an incidence rate of 5.14%.

Other tests show that football players wearing conventional shoes sustain knee and ankle injuries as high as 18%. Dr. Cameron said a drop to 5% —and hopefully this will go lower—is good preventive medicine any way you look at it.

"Injury to the knee and ankle occurs in football when the joints are forced outside of their normal anatomical axes or beyond the limits of joint motion, and corrective alignment and/or extrication from the pathological forces cannot occur. Fixation of the foot is of primary importance in the production of injuries to the knee and ankle because a mobile foot is vital to the prevention of malalignment of the joints and to the activation of escape from the abnormal forces. Although the foot can be fixed in many different situations, regardless of footwear, the most common cause of fixation is rigid cleating," Dr. Cameron explained.

But he is quick to add that even with swivel shoes all knee and ankle injuries cannot be eliminated. Any time boys or men block or are blocked, tackle or are tackled, or are called on to change directions on split-second notice, there will be some mishaps.

About 500 pairs of the new shoe were tested in the Chicago area in 1971. From those experiments, Dr. Cameron looked at the problems of getting youths adjusted to the new shoe, its durability, and the possibility of increasing the player's effectiveness through permitting easier turning.

"We consistently saw boys that with the swivel shoe could cut a tenth of a second off a move. That can give the wearer a half-step advantage over a non-wearer," he said.

Because the swivel shoe allows the wearer to turn 360 degrees with less effort every time, Dr. Cameron says he hopes it will reduce fatigue during gridiron clashes, and, eventually, be especially useful for soccer matches. Fatigue studies are proceeding now, both here and in England. Being less tired should make players of all sports less prone to all types of injuries, the physician predicts.

Late in 1971, the Wolverine Products Division—manufacturers of "Hush Puppies"—was licensed to make his swivel shoe with Davis' heel bar feature included. The shoe now bears the trademark "Wolverine Swivler."

The present version of the Cameron swivel shoe includes a sealed, metallic, forefront turntable with a molded sole on which four football cleats ½ inch long are mounted. It includes an interchangeable rubber cleat for synthetic turfs and other cleats for use in baseball, soccer and la crosse. The heel is a cleatless, molded, replaceable platform with a beveled notch.

Wolverine has announced it will have the Swivler available in large quantities in time for spring training this year (1973). It is expected that many of the shoes will be worn throughout the football world by fall.

A key feature of the new shoe will be its modest cost and its versatility. "Cost is a big consideration when you realize most junior and senior high school boys must purchase their own shoes," the physician said.

As far as getting boys to wear the shoe, Dr. Cameron says it's no big problem at the high school level. It can be done successfully in a week's time.

"Despite the fact that the swivel permits a 360-degree turn, it is not free-swinging. The wedge joint sets with the body weight. But once a player adjusts his movements to the shoe, he's happy in it—particularly a boy who has had a previous knee injury," he said.

The National Federation of State High School Associations, the National Collegiate Athletic Association, and other organizations have sanctioned Dr. Cameron's work and expressed enthusiasm about the development of a safer shoe.

"With more and more boys playing football all over the country every year, we simply had to do something about the knee and ankle injuries. . . . By trying to reduce the injury rates I'm cutting down the need for my professional services," Dr. Cameron says.

And that's what preventive medicine is all about.

THE CHANGING FACE OF TEXAS MEDICINE

The first issue of the *Texas State Journal of Medicine*—now *Texas Medicine*—for the year 1923 was filled with the spirit of reform.

■ The most important issue occupying the minds of Texas medical men that January was a series of amendments to the Medical Practice Act which were to come before the 38th Texas Legislature, soon to convene in Austin. The amendments, which were designed to enable enforcement of the provisions of the Medical Practice Act, had been presented to the 37th Legislature, but were defeated due to a last-minute filibuster.

"The Council on Legislation and Public Instruction of the State Medical Association, having renewed its interest in a measure which it so warmly espoused in the Thirty-seventh Legislature, to no avail, has proceeded with vigor to lay plans for a more successful issue in the Thirty-eighth Legislature. County societies have been importuned to bring to bear such influences as may be at hand, urging the need of correction of the faults of the Medical Practice Act, and a campaign of publicity has been inaugurated, with the intention of arousing public interest in the subject . . . The campaign had its beginning with the New Year and will continue until the ground has been fully covered."

In addition to the Medical Practice Act amendments, which were expected to be opposed by chiropractors, and perhaps, optometrists, the Association had also taken up the fight for more and better public health legislation, including funding for the State Health Department, and the establishment of a "psychopathic hospital" in Austin. The proposed amendments to the Medical Practice Act were printed in full in the January issue.

■ In the "Original Articles" section of the journal, most space was given to public health. State Health Officer J. H. Florence, MD, published a paper on the activities of the State Health Department which was most interesting.

Dr. Florence outlined the functions of each office of the Health Department, which was much as it is today, except for being smaller.

The Bureau of Vital Statistics was the weakest link in the Health Department chain, said Dr. Florence. "This is the most important of all of the bureaus. We can get no results unless reports are made by physicians, yet through ignorance, or carelessness, or both, results are not satisfactory. Excellent birth reports are made by 26 counties, 60 good, 70 fair, 52 bad and 41 make none at all. While 12 counties make excellent death reports, and 15 are good, only 36 are fair, 117 are bad, and 73 make none at all.

"About 50 per cent of the calves and colts in Texas are registered and about 10 per cent of the babies—think of it! . . . if there is not improvement by the end of the fiscal year, September 1st, I am thinking seriously of closing the bureau. As it is now it is a waste of the taxpayers' money to operate it.

"If I could say anything further that would improve the work, I would say it, or if I dared to put it any stronger without being mobbed, I would even do that. Seriously and kindly, let us erase this blot from the fair name of the medical profession and our beloved State by making 100 per cent reports of births and deaths in the future."

Dr. Florence's article was accompanied by three others, discussing the function of county, city and industrial health officers, respectively.

■ Dr. H. F. White, with the U.S. Public Health Service in Beaumont, was the author of a report on plague suppressive measures taken in South Texas two years previously. In the face of outbreaks of human and rodent plague in Pensacola, Beaumont, and Galveston, state and city health departments were quick to organize a series of eradicative measures which included trapping, wrecking, fumigation, inspection of outgoing freight, publicity, special legislation, and rat-proofing.

Dr. White noted that for a city of 40,000, at least 70 trappers were necessary. Each trapper handled 200 snap traps and from 10 to 25 cage traps.

Besides trapping, Dr. White thought that wrecking was one of the most effective measures in rat eradication. "In Galveston," Dr. White said, "human plagues had persisted from June, 1920, to October, 1920, and rodent infection was on the increase. No wrecking had been done, but all other plague measures had been vigorously pushed. On October 1, 1920, wrecking was started, for each trapper a wrecker, operating in squads of five, each squad in charge of a foreman. Each squad was assigned to a definite section of the city. With the owner's permission, over one million square feet of flooring was removed during the first month. The result was that on November 13, 1920, the last human case was found and the rodent plague gradually became less and less until, at the present time, and for the past year, it has been *nil*."

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QUESTIONS/ANSWERS

Editor's note: Our guest expert for this month is George E. Ray, Dallas attorney. Mr. Ray was a participant in a panel session on "Financial Planning for Physicians" at TMA's Fall Conference on Practice Management.

Q In several years it will not be beneficial to own more than one corporation (non-medical). Will a physician be able to be an association and also retain the tax advantages of a non-medical corporation?

A While the tax advantages of multiple corporation have been restricted by the Tax Reform Act of 1969, and after 1974 the election available to a controlled group of corporations to take multiple surtax exemptions will be eliminated entirely, this will not affect the tax advantages of a professional association, since the association generally will wind up with very little taxable income after payment of fringe benefits, other expenses, and compensation to employees, including doctors.

Q If an MD incorporates, he must provide corporate benefits for all employees. 1). What is the definition of an employee? 2). What if all his help works as subcontractors rather than employees? e.g., the secretary is a subcontractor for office management, the nurse for nursing care, etc.?

A The Internal Revenue Code imposes certain rules with respect to fringe benefits and retirement plan benefits which may be given to corporate employees. Discrimination in favor of the higher paid, officer, shareholder, or supervisory employees is forbidden, although what constitutes discrimination will vary somewhat according to the type of benefit involved.

A person is an employee when his employer has the right to control and direct him not only as to the result to be accomplished by his work, but also as to the details and means by which that result is accomplished.

While in theory his help could enter into contracts with the MD as independent contractors, in fact it would be extremely difficult to support the validity of the relationship as that of independent contractor, since the secretary and nurse will generally, as a matter of fact, be subject to the right of the MD to control and direct their work, not only as to the result to be accomplished, but as to the details and means by which the result is to be accomplished.

Q Can my estate avoid estate inheritance taxes by allowing our beneficiaries to own the insurance policies that I, as breadwinner, pay for? Also, can we have a one-man professional plan or association?

A Insurance policies may be removed from a doctor's estate by transferring to someone else the complete ownership of the policies. This will require that the doctor give up all rights and incidents of ownership. Generally, the insurance company involved will provide such forms, if requested.

The Internal Revenue Service has approved one-man professional associations in Texas if they are properly organized and the required information is supplied them. Approval of a retirement plan for a one-man association may be obtained from the Internal Revenue Service at the present time.

This section is a forum for your questions on medicolegal, socioeconomic, medical, and miscellaneous matters. You are invited to submit questions which will be presented to appropriate consultant-experts for comment. Publication will be determined by established journal policy. Letters should be signed but names will be withheld upon request. Address questions to TEXAS MEDICINE, 1801 N. Lamar Blvd., Austin, Tx. 78701.

Your help is needed to inform Texans about the seriousness of venereal disease.

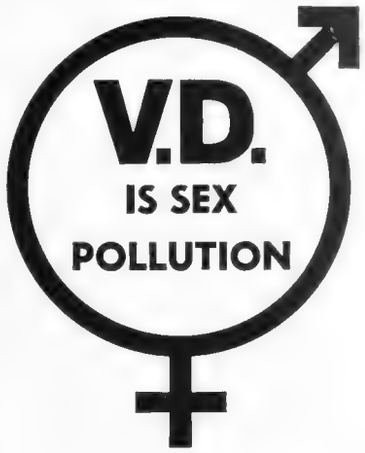
Venereal disease continues to strengthen its position as the number one communicable disease in the nation simply because people are not aware of the seriousness of the VD problem within their own communities or of the dangerous consequences of the disease.

Texas had the highest syphilis rate in the nation last year and also ranked very high in the incidence of gonorrhea.

As part of an educational program on VD, the Texas Medical Association has produced an informative pamphlet for free distribution to the public. You can help by ordering this pamphlet and distributing it in your community.

Particular attention needs to be directed toward young people. The majority of venereal disease cases in Texas are among the 15 to 24 year old age group and our state now is reporting 10 percent of all the venereally infected young adults in the nation.

Your assistance is needed to help control the serious spread of VD in Texas.



get the facts / seek early treatment

The venereal diseases syphilis and gonorrhea have become the number one infectious disease problem in the U.S. More than one million new cases are contracted each year. The use of penicillin and other antibiotics to cure VD brought a drop in reported cases after World War II, but in the last 10 years the rate has increased sharply because people with VD have not sought treatment. Texas in 1969 had the highest syphilis rate in the nation and also ranked very high in the incidence of gonorrhea.

WHO'S GETTING IT? Over half of all new VD infections are found in teenagers and young adults under 25 years of age. Texas now is reporting 10 percent of all the venereally infected young adults in the nation.

Young people should realize the possible dangers of promiscuous sexual behavior or "free love." VD is *not* contracted from towels, dishes, or public toilets. It *is* spread through intimate contact, primarily sexual intercourse, with someone who has the disease.

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MEDICINE IN LITERATURE

U.S. Health Care, What's Wrong and What's Right, Stephen P. Strickland, 127 pp., 28 tables, New York, Universe Books for Potomac Associates, 1972, $2.45.

Medicine in a Changing Society, Lawrence Corey, S. E. Saltman, and M. F. Epstein, eds., 228 pp., St. Louis, C. V. Mosby, 1972, $6.50.

THE TERM "HEALTH CRISIS" is one that is being bandied about more and more frequently. On one hand, advocates like Sen. Edward F. Kennedy seem so alarmed about what they see as a crisis situation that they are proposing a radical overhaul of the US health care system, calling for comprehensive—and expensive—national health insurance, the establishment of more health maintenance organizations, and increasing governmental supervision over the practice of medicine.

On the other side, there are those who oppose any kind of involvement from non-professionals in the health care system.

The vast majority of the American public, however, as well as a number of physicians, is poised somewhere between the two extremes, and many are bewildered by the debate.

Two recently published books may be able to shed some light on the controversy. The first, *U.S. Health Care, What's Wrong and What's Right,* reports the results of two surveys—one of the public and one of physicians—commissioned by Potomac Associates to determine attitudes about the US health care system.

The second, *Medicine in a Changing Society,* is edited by three interns, all graduates of the University of Michigan School of Medicine. This book is a compendium of lectures delivered to classes at the Michigan school about the changing social milieu in which tomorrow's physician will practice. Presented in this volume are explanations and criticisms of health maintenance organizations, national health insurance, medicare, medicaid, and utilization review, as well as assessments of the need for change in methods of health care delivery.

The two volumes are interesting to read back-to-back for in many ways, it may be said that the one disposes of what the other proposes. Dr. Strickland's (PhD) book reports the results of a survey designed to collect public responses on "basic differences in principle and approach" as reflected in various health care proposals which are either pending in Congress or being discussed by the public.

The results of the survey show, Dr. Strickland says, that there is a growing national consensus that some improvements are needed in the American health care system. What is surprising, however, is the nature of the change which the public seems to want.

For example, most Americans surveyed expressed a preference for a continuing relation with one physician whom they know, as opposed to the HMO idea where a patient may never see the same physician more than once.

Moreover, though most Americans do recognize and support the need for change, they have confidence they can get care with the present system.

In some areas, physicians and laypersons who were surveyed differed. For example when asked to rank health care problems on a one to ten scale, laypeople put "shortage of physicians," and complicated and costly health insurance as problems one and two, while physicians put high costs as the system's main flaw.

Even though the public may not be as demanding as has previously been assumed, however, there are some signs that the practice of medicine may be forced into some changes. National health insurance, probably with a deductible provision, is favored by a majority of public and physicians alike. While most of the public think professionals should be prevailed upon to advise the government in instituting such a plan, they also feel that there is a place for citizen involvement in administering it.

These kinds of insights make Strickland's book one which will interest the physician and perhaps give him or her some insight into the way the public sees the profession and the health care system.

By reading Strickland's work first, it is possible to challenge some of the conclusions of the pieces presented in *Medicine in a Changing Society.* Some of the prescriptions for change will probably seem drastic to the practicing physician, and in the light of the results of the work cited above, may well be so.

The stated purpose of this book is fourfold: "to provide more knowledge about how health services are and are not being provided in the society; to make possible an in-depth understanding of the problems inherent in the present method of delivery of health care; to develop insights into how the current developments in society are affecting the delivery of health services; and to stimulate thinking on selected proposals that hold the promise of more effectively relating the medical profession to a changing society."

The fault of the book lies in the fact that, while separate sections are interesting and appropriate, the total represents a fragmented approach to the problem. The purpose of the editors, however, is stated so broadly that it is probably impossible to accomplish without a multi-volume series. What results is one person's view of community health planning, one person's attitude toward medicare and medicaid, one person's recommendations for reform of the health care system.

Nevertheless, both works make worthwhile reading for students of medicine and how its practice relates to the society around it. Both books should make a definite contribution to the growing store of information needed for making responsible, informed decisions about the direction that the delivery of health care in the United States is going to take.

IN THE TMA LIBRARY

American Academy of Orthopaedic Surgeons: *Symposium on Myelomeningocele,* C. V. Mosby, St. Louis, 1972.

Bejerot, Nils: *Addiction and Society,* Charles C Thomas, Springfield, Ill., 1970.

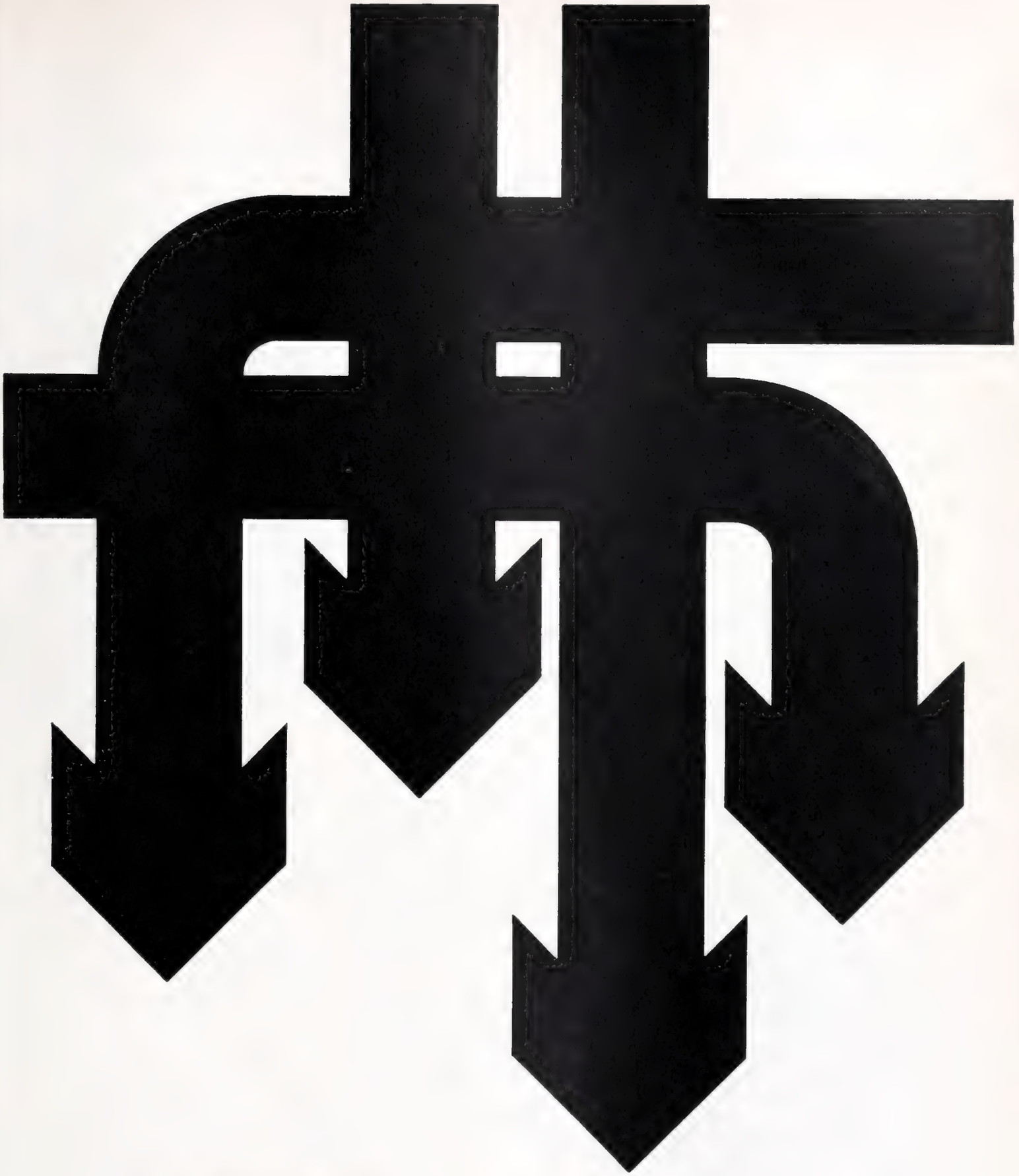
Blum, R. H., et al.: *Society and Drugs, vols. 1 and 2,* Jossey-Bass Inc., San Francisco, 1970.

Cole, J. O., and Wittenborn, J. R., eds.: *Drug Abuse; Social and Psychopharmacological Aspects,* Charles C Thomas, Springfield, Ill.

Goode, Erich, ed.: *Marijuana,* Aldine-Atherton, Chicago, 1969.

James, J. A.: *Renal Disease in Childhood,* 2nd ed., C. V. Mosby, St. Louis, 1972.

Books listed and reviewed in this section are available in the TMA Memorial Library, 1801 N. Lamar Blvd., Austin 78701. Guidelines for book reviewers also are available from the Library.



DALLAS 73

Texas Medical Association puts it all together in Dallas at its 106th Annual Session, May 3-6, 1973. Take part in the largest annual medical meeting held in the Southwest featuring 47 guest speakers plus 350 special and TMA member-speakers, section and specialty programs, continental breakfast presentations plus a wide variety of programs presenting topics of varying interests. See the current issue of Texas Medicine **for complete details and advance registration and hotel reservation forms.**

PERSONALS

Drs. Jack Williamson and Reagan Hicks, both of San Antonio, have been cited by the Bexar County Medical Society for their work with the San Antonio-Bexar County Emergency Medical Care Council and the Bexar County Medical Foundation.

Dr. Williamson, coordinator of the Emergency Care Council, was recognized for his efforts in establishing a publicly-operated emergency ambulance system.

Dr. Hicks, president of the board of the medical foundation, was commended for his work to establish a health maintenance organization and his "dedication toward finer physician-patient concepts."

Dr. Ben E. Moore, Dallas, has been named secretary-treasurer of the Board of Directors of the American College of Emergency Physicians.

Dr. J. B. Copeland, deputy commissioner of the Texas Department of Health since 1963 and a former San Antonio physician, has announced his retirement effective Feb. 1, 1973.

Dr. Copeland joined the state health department after being in general practice in San Antonio for 33 years. He was a founder and first president of the Texas Academy of General Practice and is a past president of the Bexar County Medical Society.

Former Texas Gov. Preston Smith declared the week of Nov. 12-18 as Diabetes Week in Texas. Attending the proclamation signing ceremonies were Dr. Harold Dobson, left, president of the South Texas Diabetes Association; John Van Amburgh, chairman of the board of the Dallas Diabetes Association; and Dr. Alfred E. Leiser, president of the Houston Diabetes Association and the Texas Diabetes Association.

Dr. Philip O'Bryan Montgomery, Jr., special assistant to the chancellor of The University of Texas System and a professor of pathology at UT Southwestern Medical School, has been named a special medical advisor to the board of Damon Runyon-Walter Winchell Cancer Fund.

As one of two such advisors, Dr. Montgomery will serve as scientific liaison between the board of trustees and its scientific advisory committee and will represent the fund in certain public matters.

Dr. Mario E. Ramirez, Roma, has been appointed to the National Advisory Health Council by Dr. Merlin K. Duval, assistant secretary for health of the Department of Health, Education, and Welfare.

Dr. Everett C. Fox, Dallas, has been elected chairman of the board of the Dermatology Foundation, a national organization charged with raising funds to provide better care of patients with skin diseases. The elections were held at the foundation's annual meeting held Dec. 2 in Bal Harbour, Fla.

Dr. William Rector, Wichita Falls internist, has been appointed to a National Census Committee on Privacy and Confidentiality. The committee, established by the Secretary of Commerce in 1971, advises the Bureau of Census on policy and procedure concerning the purpose and scope of census inquiries and on all aspects of privacy and confidentiality as they relate to the statistical work of the bureau.

Dr. Armand K. Guarino has been appointed acting dean of the Graduate School of Biomedical Sciences for the University of Texas Health Science Center at San Antonio. Dr. Guarino is also professor and chairman of biochemistry for the UT medical school.

PAMPHLETS

Safety in hospitals everywhere, all the time, is the goal of the new *Safety Guide for Health Care Institutions.*

The 238-page manual assists hospital personnel in recognizing and eliminating potential health hazards. All sources of danger to the patient, visitor and employee, ranging from falls to fires, are carefully examined.

Specific safety precautions in specialized departments, such as the use of mastic tile in laboratories, are described in detail. Sample safety checklists are provided for supervisory personnel. Inspections and record-keeping are encouraged as a means to maintain safe conditions.

Also included are supplementary references, a list of safety-related organizations and a summary of the major provisions of the Occupational Health and Safety Act of 1970.

Copies are available at $4.50 each from the American Hospital Association, Order Control Department, 840 N. Lake Shore Drive, Chicago, Ill. 60611.

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BARTON W. DORBANDT
Wichita Falls 1902-1972

WILLIAM J. FETZER
San Antonio 1903-1972

WILLIAM R. GEE
Richardson 1931-1972

JACK C. POSTLEWAITE
El Paso 1918-1972

WILL E. SCOTT
Rosenberg 1923-1972

JOHN B. YOUNG
Houston 1921-1972

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RECENT DEATHS

DR. SCOTT

DR. GEE

DR. POSTLEWAITE

DR. W. E. SCOTT

Fort Bend County health officer Dr. Will E. Scott, 49, died Sept. 26, 1972, in Houston's Methodist Hospital from complications following heart surgery.

Born in Marion, Ind., Dr. Scott was educated at DePauw University in Greencastle, Ind., and Indiana University School of Medicine in Indianapolis. After graduating in 1942 with an AB degree, Dr. Scott served with the US Navy in the South Pacific. He entered medical school in 1946 and graduated with an MD degree in 1950. He remained in Indianapolis to serve a one-year internship at Indianapolis General Hospital, and in 1951 moved to Rosenberg, where he practiced until his death.

A member of the staff of Polly Ryon Memorial Hospital in Richmond, Dr. Scott was instrumental in establishing the hospital's coronary care unit. At the time of his death he was a member of Texas Medical Association, American Medical Association, and American Academy of Family Physicians. Dr. Scott was a past president of Wharton-Jackson-Matagorda-Fort Bend Counties Medical Society, and belonged to Nu Sigma Nu medical fraternity.

Surviving the physician are his wife, Jean Breckenridge Scott; a daughter, Sara Marie Scott, both of Rosenberg; and his mother, Mrs. Ruby Richardson Scott of Warren, Ind.

DR. W. J. FETZER

Dr. William Jefferson Fetzer, 68, died Aug. 25, 1972, in San Antonio. Cause of death was arteriosclerotic heart disease.

A native of San Antonio, Dr. Fetzer had been in general practice there since 1930. He had attended The University of Texas at Austin and received his medical education at The University of Texas School of Medicine (now UT Medical Branch) at Galveston. After graduating from that institution in 1929 with an MD degree, Dr. Fetzer served an internship at Santa Rosa Medical Center in San Antonio.

A recipient of the Carnegie Medal for Valor in 1943, Dr. Fetzer founded the Good Samaritan Health Clinic, located in San Antonio, and had served on the board of the Ecumenical Center for Health and Religion, also located in San Antonio.

A fellow of the American Academy of Family Physicians, the physician also was a member of Bexar County Medical Society, Texas Medical Association, American Medical Association, and Alamo Chapter, Texas Academy of Family Physicians. Dr. Fetzer also belonged to Theta Kappa Psi medical fraternity and Christ Episcopal Church.

Surviving the physician are his wife, Ruth Kerr Fetzer; two sons, Robert David Fetzer, Houston, and Homer D. Fetzer, San Antonio; a daughter, Mrs. Mary Claire Altgelt, San Antonio; and ten grandchildren.

DR. W. R. GEE

Dr. William Robert Gee, 41-year-old Richardson family practitioner, died on Sept. 25, 1972, of metastatic adenocarcinoma of the lung.

Dr. Gee was born in Osceola, Tex. He attended Hill Junior College in Hillsboro, Tex., and The University of Texas at Austin before graduating in 1956 with an MD degree from UT Southwestern Medical School at Dallas. From 1956 to 1957, Dr. Gee interned at Detroit Receiving Hospital in Detroit, Mich. Upon completion of his internship, he entered military service and served with the US Air Force until 1963, at which time he returned to Texas. During his military career, Dr. Gee was Hospital Commander of the Air Force Base at Ashyia, Japan (1957-1959), and at Craig AFB, Selma, Ala., (1959-1961). He was appointed chief of the medical division, Headquarters USAF Recruiting Service at Wright-Patterson AFB in Dayton, Ohio, in 1961 and retired from the service in 1963 with the rank of captain.

A member of Phi Chi medical fraternity and West Shore Methodist Church in Richardson, Dr. Gee belonged to Dallas County Medical Society, Texas Medical Association, American Medical Association, Aerospace Medical Association, and World Medical Association.

Surviving the physician are his wife, Nancy Vaughan Gee; his son, William Robert Gee, Jr.; three daughters, Melanie Anne, Gennifer Gayle, and Kathryn Alyn Gee, all of Richardson; his brother, Bryan Gee of Fort Worth; his sister, Mrs. Patsy Lowe of Hillsboro; and two half-sisters, Mrs. Ernest Branscome of Hillsboro and Mrs. George Babcock of Fort Worth.

DR. J. C. POSTLEWAITE

Dr. Jack Clifford Postlewaite, El Paso physician specializing in internal medicine, died on Oct. 1, 1972, at Providence Memorial Hospital. Acute myocardial infarction claimed the life of the 54-year-old physician.

Dr. Postlewaite had practiced in El Paso since 1950. He had served on the staffs of Southwestern General Hospital, Providence Memorial Hospital, Hotel Dieu Hospital, El Paso Doctors Hospital, Saint Joseph Hospital, Sun Towers Hospital, and R. E. Thomason General Hospital.

Born in Duluth, Minn., he had attended Vanderbilt University in Nashville, Tenn. After graduating with a BA degree in 1940, Dr. Postlewaite began his medical studies at Vanderbilt University School of Medicine, graduating with an MD degree in 1943. From 1943 to 1944, the physician interned at Duke University Medical Center in Durham, NC. He served residencies at the University of Illinois College of Medicine, Chicago, in 1946; at the University of Minnesota Medical School, Minneapolis, in 1947; and at Veterans Administration hospitals in McKinney, Tex., from 1947 to 1948, and at Temple, Tex., from 1949 to 1950.

Active in civic work, Dr. Postlewaite also did research in the field of peritoneal adhesions and had authored work on coccidioidomycosis meningitis. He was certified by the American Board of Internal Medicine, and was a member of El Paso County Medical Society, El Paso Heart Association, El

DR. BLOSS

DR. DORBANDT

Paso Tuberculosis Association, Texas Medical Association, American Medical Association, American College of Chest Physicians, and American Society of Internal Medicine.

Survivors include his wife, Grace Maas Postlewaite; two daughters, Mrs. Elizabeth Ann Abbott and Sandra Louise Postlewaite, all of El Paso; two sons, Philip Fredrick Postlewaite of New York City, and Terry Allen Postlewaite of El Paso; and three grandchildren.

DR. C. L. BLOSS

Retired Dallas psychiatrist Dr. Charles Lyndon Bloss, 58, died Oct. 10, 1972, in his home at Glenwood, Tex.

A native of McKinney, Tex., Dr. Bloss attended Baylor University in Waco and The University of Texas at Austin before entering Baylor College of Medicine (then located in Dallas) in 1939. He was graduated with an MD degree in 1943. From 1944 to 1947, Dr. Bloss served in the US Army Medical Corps at Battle Creek, Mich., and during this time completed his internship. He served a residency in psychiatry at Timberlawn Psychiatric Hospital in Dallas from 1947 to 1950, and then began his practice of neuropsychiatry in Dallas.

A recipient of the Army Commendation Ribbon for Meritorious Achievement, Dr. Bloss did research in the field of insulin treatment in psychiatry. He had served as medical director of Timberlawn Psychiatric Hospital and was a clinical assistant professor of psychiatry at UT Southwestern Medical School from 1950 to 1956.

At the time of his death, Dr. Bloss was a member of Dallas County Medical Society, Dallas Southern Clinical Society, Dallas Psychiatric Association, American Psychiatric Association and Texas District Branch of APA, Texas Medical Association (he was elected to inactive membership in 1972), and American Medical Association.

A charter member and past president of the East Dallas Lions Club, Dr. Bloss also held memberships in Dallas Chamber of Commerce and Alpha Omega Alpha honor medical society.

Survivors are three sons, Charles L., Jr., and Robert Scott Bloss, both of Dallas, and William Paul Bloss of Abilene. His wife, Mary Carnes Bloss, preceded him in death in April, 1972.

DR. B. W. DORBANDT

Dr. Barton Wycliffe Dorbandt, 69, former superintendent of Wichita Falls State Hospital, died on Sept. 29, 1972, at Bethania Hospital in Wichita Falls. Cause of death was chondrosarcoma of the right femur.

A native of Burnet, Tex., Dr. Dorbandt had practiced in Wichita Falls since 1937. He was graduated in 1930 with an MD degree from the University of Arkansas School of Medicine in Little Rock, having obtained his pre-medical education at Southwestern University in Georgetown, Tex.

Upon graduation from medical school, Dr. Dorbandt practiced in Little Rock and in San Antonio, serving as assistant superintendent of San Antonio State Hospital from 1934 to 1937.

A past president of the medical staff at Bethania Hospital, the physician had also served as chairman of the board of managers at Wichita General Hospital. He was a member of Wichita County Medical Society, Texas Medical Association, and American Medical Association. At the time of his death, he was a member of Wichita Falls Rotary Club, having served as president from 1939 to 1940. Dr. Dorbandt had also served on the administrative board of First United Methodist Church in Wichita Falls.

Surviving Dr. Dorbandt are his wife, Opal Kyle Dorbandt; his daughter, Mrs. Betty Brenton of Dallas; two brothers, L. B. and Ealy Dorbandt, both of Burnet; two sisters, Mrs. Earl Sawyer of Burnet, and Mrs. John Altman of Redlands, Calif.; and one grandson.

DR. J. B. YOUNG

Dr. John Bob Young, clinical associate professor of pediatrics at Baylor College of Medicine in Houston, died on Oct. 7, 1972, at Methodist Hospital in Houston. The 51-year-old physician, who had been instrumental in the development of a pediatrics program at Texas Childrens Hospital in Houston, suffered from heart disease.

Dr. Young was born in Decatur, Tex., and attended Decatur Baptist College before entering North Texas State University in Denton, Tex., where he received a BS degree in 1942. Before entering Baylor College of Medicine in 1946, Dr. Young served three years (1943-1946) with the US Navy in the Pacific. In 1950, he received his MD degree and began serving an internship at Houston's Jefferson Davis Hospital. From 1952 to 1954, he was a resident at Hermann Hospital, also in Houston. Upon completion of his residence, Dr. Young established his practice in Houston.

A member of Alpha Omega Alpha honor medical society and Phi Chi medical fraternity, the physician held memberships in Harris County Medical Society, Houston Pediatric Society, Texas Pediatric Society, Texas Medical Association, American Medical Association, and American Academy of Pediatrics. He was certified by the American Board of Pediatrics.

Dr. Young leaves his wife, Barbara Willey Young; a son, John G. Young; and two daughters, Charlotte and Barbeth Young, all of Houston; his mother, Mrs. Minnie Young of Decatur; two brothers, Thomas H. Young of Fort Worth, and Allen Ray Young of Decatur; and a sister, Mrs. Aquilla Maples of Decatur.

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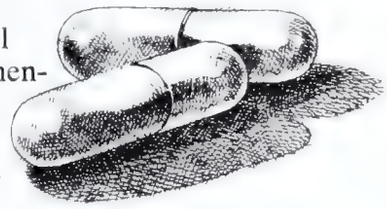

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PRECAUTIONS: If superinfection occurs due to overgrowth of nonsusceptible organisms, including fungi, discontinue antibiotic and start appropriate therapy.
In venereal diseases, when coexistent syphilis is suspected, perform darkfield examination before therapy, and serologically test for syphilis monthly for at least four months.
Tetracyclines have been shown to depress plasma prothrombin activity; patients on anticoagulant therapy may require downward adjustment of their anticoagulant dosage.
In long-term therapy, perform periodic organ system evaluations (including blood, renal, hepatic).
Treat all Group A beta-hemolytic streptococcal infections for at least 10 days.
Since bacteriostatic drugs may interfere with the bactericidal action of penicillin, avoid giving tetracycline with penicillin.
ADVERSE REACTIONS: Gastrointestinal (oral and parenteral forms): anorexia, nausea, vomiting, diarrhea, glossitis, dysphagia, enterocolitis inflammatory lesions (with monilial overgrowth) in the anogenital region.
Skin: maculopapular and erythematous rashes; exfoliative dermatitis (uncommon). Photosensitivity is discussed above (See **WARNINGS**)
Renal toxicity: rise in BUN, apparently dose related (See **WARNINGS**).
Hypersensitivity: urticaria, angioneurotic edema, anaphylaxis, anaphylactoid purpura, pericarditis, exacerbation of systemic lupus erythematosus.
Bulging fontanels, reported in young infants after full therapeutic dosage, have disappeared rapidly when drug was discontinued.
Blood: hemolytic anemia, thrombocytopenia, neutropenia, eosinophilia.
Over prolonged periods, tetracyclines have been reported to produce brown-black microscopic discoloration of thyroid glands; no abnormalities of thyroid function studies are known to occur.
USUAL DOSAGE: Adults—600 mg daily, divided into two or four equally spaced doses. More severe infections, an initial dose of 300 mg followed by 150 mg every six hours or 300 mg every 12 hours. Gonorrhea: In uncomplicated gonorrhea, when penicillin is contraindicated, 'Rondomycin' (methacycline HCl) may be used for treating both males and females in the following clinical dosage schedule: 900 mg initially, followed by 300 mg q.i.d. for a total of 5.4 grams.
For treatment of syphilis, when penicillin is contraindicated, a total of 18 to 24 grams of 'Rondomycin' (methacycline HCl) in equally divided doses over a period of 10-15 days should be given. Close follow-up, including laboratory tests, is recommended.
Eaton Agent pneumonia, 900 mg daily for six days.
Children—3 to 6 mg/lb/day divided into two to four equally spaced doses.
Therapy should be continued for at least 24-48 hours after symptoms and fever have subsided.
Concomitant therapy: Antacids containing aluminum, calcium or magnesium impair absorption and are contraindicated. Food and some dairy products also interfere. Give drug one hour before or two hours after meals. Pediatric oral dosage forms should not be given with milk formulas and should be given at least one hour prior to feeding.
In patients with renal impairment (see **WARNINGS**), total dosage should be decreased by reducing recommended individual doses or by extending time intervals between doses.
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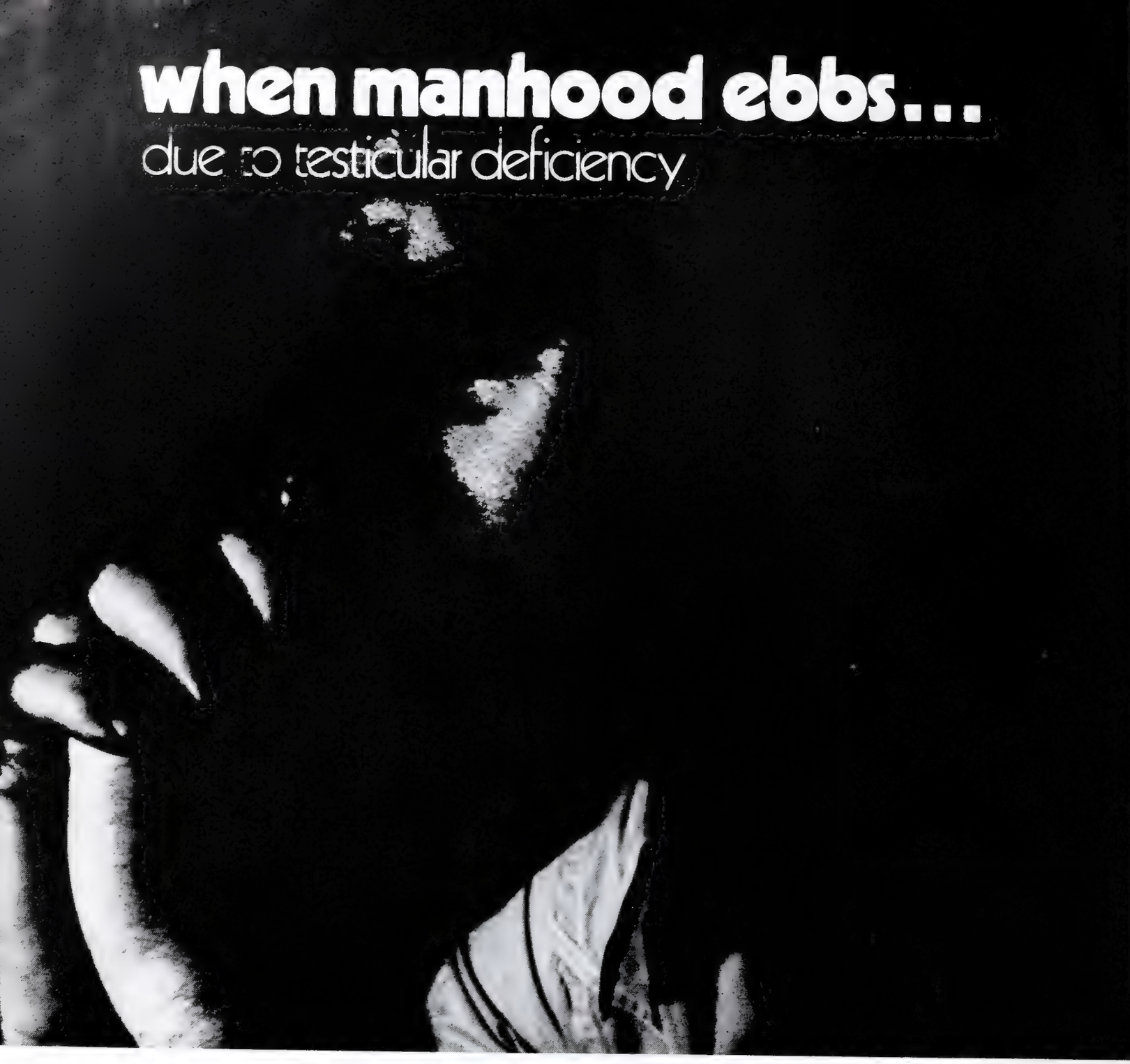

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Mark your calendar now for these important Texas Medical Association meetings:

* Legislative Seminar
  Jan. 20, 1973, Austin
* 106th Annual Session
  May 3-6, 1973, Dallas
* Conference on Medical Practice
  Oct. 6, 1973, Austin

Watch for program details in TEXAS MEDICINE

Classified Advertising

Physicians Wanted

ORTHOPEDIC SURGEON AND TWO GP's needed by 19 doctor group, 100-bed fully accredited hospital. Salary open. Full partnership in one year. For additional details, write John B. Chester, M.D., 3330 South Lancaster Road, Dallas, Texas 75216.

UROLOGIST, board certified or eligible, to associate with a progressive and expanding multispecialty group in West Texas. Many fringe benefits including retirement program. No investment required. Adjoining accredited hospital. City population 35,000. Contact Ad-236, *Texas Medicine*, 1801 North Lamar Blvd., Austin, Texas 78701.

INTERNIST AND GENERAL PRACTITIONER WANTED by a five man group in a 10,000 population county seat town in Central Texas. The location is one hour from Dallas and Fort Worth, 30 minutes from Waco, and 20 minutes from Lake Whitney Dam. The clinic is located in the same building with a 50-bed, fully accredited hospital. The doctors have no hospital financial responsibility. Will start the right man at $30,000 salary for first year and full partnership after one or two years. It will be necessary to do some obstetrics. Please reply to Ad-301, *Texas Medicine*, 1801 North Lamar Blvd., Austin, Texas 78701.

WELL ESTABLISHED 32-man multispecialty group in Dallas, Texas, needs an ob/gyn, internal medicine, general surgeon, orthopedist, and otolaryngologist. Early partnership, liberal vacation and meeting time, life insurance, group hospitalization, retirement benefits, teaching opportunities, new facilities, interview expenses paid. Please contact Cecil Rosamond, Administrator, P. O. Box 28, Dallas, Texas.

DESIRE GP, SURGEON OR EENT. 16,000 population, rural area. Industry and ranching. Near metropolitan area. Good school system. Need association. Cleburne, Texas. For additional information contact Ad-363, *Texas Medicine*, 1801 North Lamar Blvd., Austin, Texas 78701.

ATTENTION PILOT PHYSICIANS: Combine emergency room work with flying. Group maintains Bonanza for business and pleasure. Please reply to Ad-365, *Texas Medicine*, 1801 North Lamar Blvd., Austin, Texas 78701.

GENERAL PRACTICE, FAMILY PRACTICE with three other family practitioners. Clinic, 40-bed hospital, 44-bed extended care, pharmacy. No capital outlay, no buy-in, equal privileges, guaranteed income until established. Top opportunity in Southwest. Contact Gordon Russell, Administrator, Hi-Plains Hospital-Clinic, 203 West 4th, Hale Center, Texas 79041.

FAMILY PRACTICE PHYSICIAN AND INTERNIST needed to join a full time five man clinic association with part time radiologist and clinical pathologist in Clifton, Texas. Located 35 miles NW of Waco, 15 miles from Lake Whitney; good fishing, excellent hunting, new, recently completed, modern golf course. Excellent schools, churches and growing progressive small town. Closely associated with new 65-bed hospital facility, which is fully accredited by the Joint Commission. Suggest salary at first with partnership in future. Financial terms open. Please contact V. D. Goodall, M.D., Clifton Medical and Surgical Clinic Association, Clifton, Texas 76634. Telephone 675-8621 or 675-3113.

GENERAL PRACTITIONER: Excellent location in the Lost Pines of Texas area. Growing community of 3,500 along the beautiful Colorado river has an excellent opportunity for a good family general practitioner. Excellent small hospital (25 beds) and nursing home (62 beds) complex. Guaranteed salary, clinic environment and other fringe benefits will make this difficult to turn down if interested in working in a progressive rural community. Write Ad-386, *Texas Medicine*, 1801 North Lamar Boulevard, Austin, Texas 78701.

AN OB-GYN, under 40 years of age, is wanted to join a 3-doctor OB-GYN group in West Texas. Salary negotiable leading to partnership. Contact Midland Women's Clinic, 2009 West Wall, Midland, Texas 79701.

PSYCHIATRIC RESIDENCY in approved 3-year program. Effective connections with universities, medical schools, private clinics, and community centers. Outstanding faculty and programs. Stipends with Texas license are $13,000, $14,000, and $15,000 per year. In addition, now offering residency in child psychiatry. For full information write to Anthony P. Rousos, M.D., Director of Training and Research, Austin State Hospital, 4110 Guadalupe Street, Austin, Texas 78751.

PHYSICIANS NEEDED—Staff physicians, general practitioners and/or board certified specialists to increase staff of Travis State School. Texas license required. Fringe benefits include 40 hour work week, vacation and sick leave. Present and projected salary increases make positions attractive. Contact Superintendent or Medical Director, Travis State School, P.O. Box 430, Austin, Texas 78767. Telephone 512-926-2410. An equal opportunity employer.

INTERNISTS—To conduct private practice and join staff, any one of five modern, progressive, publicly owned hospitals, all in desirable Gulf Coast cities. Generous guaranteed income during first year. Reply Ad-410, *Texas Medicine*, 1801 North Lamar Blvd., Austin, Texas 78701.

GENERAL PRACTITIONERS—To conduct private practice and join staff, any one of five modern, progressive publicly owned hospitals, all in desirable Gulf Coast cities. Generous guaranteed income during first year. Reply Ad-411, *Texas Medicine*, 1801 North Lamar Blvd., Austin, Texas 78701.

WANTED: GENERAL PRACTITIONER OR INTERNIST on staff of San Angelo Center. This is an institution for the moderately mentally retarded of the state. Salaries are quite competitive with other state and federal institutions. 40 hour work week, ample vacation time, and other fringe benefits. Excellent community to live near San Angelo, Texas. Contact Medical Director, San Angelo Center, Carlsbad, Texas 76934.

GENERAL PRACTITIONER WANTED by multi-specialty group. Income based on production, with guarantee. Ample free itme. Professional expenses paid. Growing college town; good schools; excellent living and recreational area. Medical-Surgical Clinic, 420 Normal, Denton, Texas 76201.

OB-GYN WANTED by multi-specialty group. Income based on production, with guarantee. Ample free time. Professional expenses paid. Growing college town; good schools; excellent living and recreational area. Medical-Surgical Clinic, 420 Normal, Denton, Texas 76201.

UROLOGIST WANTED by multi-specialty group. Income based on production, with guarantee. Ample free time. Professional expenses paid. Growing college town; good schools; excellent living and recreational area. Medical-Surgical Clinic, 420 Normal, Denton, Texas 76201.

GENERAL PRACTITIONER NEEDED IN JUNCTION, TEXAS. Completely equipped office available for immediate occupancy. Modern 18 bed well equipped hospital. Junction city population 2800. Kimble County population 4500. Kimble County Hospital serves entire county. Excellent school system, friendly small town, stable ranching community, multiple recreational facilities available. For additional information contact Robert Bruce Parker, M.D., P.O. Box 7, Junction, Texas 76849.

PSYCHIATRIST: Board certified or eligible with Texas license or eligible for reciprocity, for 2700-bed modern State Hospital. Salary $25,500 plus $1,000 for board certification and possibility of up to $3,000 in additional compensation in three to six months. Apply Luis M. Cowley, M.D., Superintendent, Terrell State Hospital, Terrell, Texas 75160. An equal opportunity employer.

PHYSICIANS: Texas license or eligible for reciprocity, for 2700-bed modern State Hospital. Salary $23,000 plus possibility of additional compensation in three to six months. Apply Luis M. Cowley, M.D., Superintendent, Terrell State Hospital, Terrell, Texas 75160. An equal opportunity employer.

WANTED: GENERAL PRACTITIONER, INTERNIST OR PEDIATRICIAN to join medical staff of Abilene State School, a facility for the mentally retarded under the Texas Department of Mental Health and Mental Retardation. Base annual salary $23,000. A supplement of $1,000 possible if board certified and working full time in that capacity. Other supplemental possible, based on qualifications, experience and responsibility. Forty hour week with excellent vacation, sick and holiday plan. Good life and hospitalization plan, social security and excellent state retirement plan. Progressive city of 90,000 friendly people in West Central Texas. Texas license required. Contact O. V. Milstead, Personnel Director, Box 451, Abilene, Texas 79604, AC915-692-4053. Equal opportunity employer.

WANTED: GENERAL PHYSICIANS for 900 bed psychiatric hospital, salary $23,000 to $26,000 depending on qualifications. Liberal vacation, holiday, and sick leaves. Insurance partially paid by employer. Write Superintendent, Big Spring State Hospital, P.O. Box 231, Big Spring, Texas 79720. An equal opportunity employer.

RESIDENCIES—PHYSICAL MEDICINE AND REHABILITATION (Rehabilitation Medicine). Approved three year program. Comprehensive in and out-patient experience in all phases of the specialty, including electrodiagnosis. Facilities utilized in program include county, VA, military, and private hospitals. Basic stipend $9,000-$10,200. Liberal fringe benefits. Contact Arthur E. Grant, M.D., University of Texas Medical School at San Antonio, 7703 Floyd Curl Drive, San Antonio, Texas 78284.

ASSISTANT SURGEON FOR HOUSTON SUBURB. $2,000 per month minimum collections guaranteed. Potential collections very high. No practice expense. Must have Texas license. Sanford Smith, Director of Physician Planning, Hospital Affiliates, Inc., 12421 East Freeway, P. O. Box 9836, Houston, Texas 77015.

GENERAL PRACTITIONER NEEDED to assume well established practice in West Texas community of 15,000 people. Modern, fully accredited, 85 bed general hospital with modern equipment. Possible gross of $100,000 after first year. Five hour drive to New Mexico mountains. Memorial Hospital, Kermit, Texas 79745. Telephone 915-586-2511, collect.

RADIATION THERAPY RESIDENCY—Two positions available in July 1973. Approved 3 year program designed to develop competence in clinical oncology, radiation biology, radiation physics in major modern teaching hospital. Direct applications to Director of Radiotherapy, University of Texas Medical Branch, Galveston, Texas. We are an equal opportunity employer.

GP WANTED TO ASSOCIATE with well established GP in town of 25,000, 75 miles north of Dallas. Good schools and churches, close to Lake Texoma. Privileges in all three hospitals according to qualifications. Salary open. Write or call W. S. Fry, M.D., 2301 South Austin Avenue, Denison, Texas 75020.

PHYSICIANS—750 bed hospital with large medical, surgical, psychiatric services, is in need of internist, psychiatrist, radiologist, pathologist, anesthesiologist, orthopedist, all preferably board certified. Located in small, medically oriented city, close to large metropolitan areas. Excellent consultation and facilities available. Possible site for medical school. Salary competitive, ample vacation and sick leave, and fringe benefits. Equal employment opportunity agency. Apply Chief of Staff, VA Center, Temple, Texas 76501.

VA REGIONAL OFFICE, HOUSTON, TEXAS, has medical officer vacancy on Rating Board. Starting pay $20,627, 40 hour work week. Fringe benefits, i.e., sick and vacation leave, periodic pay raises, retirement, health and life insurance. Contact Personnel Officer, VA Regional Office, 515 Rusk Avenue, Houston, Texas 77061.

CLASSIFIED AD RATES & DATA: Classified Advertising sells for $8.00 per issue for 50 words or less, payable in advance. Ad numbers can be substituted for formal addresses upon request at no extra cost. Name and address of ad number listings can not be given out unless specific permission to do so has been given. The advertising office will not contact ad number holders except by mail. Copy deadline is the 20th of the month preceding publication. Send copy to Advertising Assistant, TEXAS MEDICINE, 1801 North Lamar Blvd., Austin, Texas 78701.

PRIVATE PRACTICE OPPORTUNITIES are now available in the field of general practice. These opportunities available in a 100-bed proprietary hospital, physician owned, with an expansion to 165 beds. Medical success in your practice guaranteed by cash of at least $4,000 per month for a period of 6 months. Free rent and other benefits also included. Pasadena, Texas, is a progressive city of 100,000 located as a suburb of Houston, Texas, near the Manned Space Craft Center. Medical community enjoys high per capita earnings, open staff policies, and unlimited medical opportunities. For additional information write or call Richard Fly, Pasadena General Hospital, 1004 Seymour, Pasadena, Texas 77502. Phone AC 713-473-1771.

GENERAL PRACTITIONER OR INTERNIST WANTED (Texas license required) for student health physician. Salary $23,500 with fringe benefits and pleasant association with three other physicians to care for students. Write Dr. Robert A. Lloyd, Director of Student Health Center, North Texas State University, Denton, Texas 76203 or call 788-2331. We are an equal opportunity employer.

DESIRE EENT man to practice in a town of 50,000 and over population. Town is a winter resort and near the Mexican border. To associate for some time and later take over practice of 25 years. For additional information, write AD-425, *Texas Medicine*, 1801 North Lamar Blvd., Austin, Texas 78701.

OPHTHALMOLOGIST TO TAKE OVER active practice in South Central Texas. Can be easily expanded with surgery or kept smaller for semi-retired physician. Please reply to Ad-426, *Texas Medicine*, 1801 North Lamar Blvd., Austin, Texas 78701.

A GOLDEN OPPORTUNITY for a thorough, board certified (or eligible) OBG female to join me. Terms to be negotiated on a pre-paid visit to this northern Texas university city. Send resume to Ad-427, *Texas Medicine*, 1801 North Lamar Blvd., Austin, Texas 78701.

WANTED—TUBERCULOSIS OUTPATIENT CLINIC PHYSICIAN for Texas State Department of Health Regional Tuberculosis Clinic. Salary dependent upon training, experience, and board certification. Eligibility for Texas license required. For information, contact Nina M. Sisley, M.D., Deputy Director, Public Health Region 10, Route 2, Box 315, Corpus Christi, Texas 78408. Telephone AC512-241-4226. An equal opportunity employer.

FP OR IM TO JOIN THREE MAN GROUP (all ABFP). Investigate facilities, compatability, economics and environment personally with wife and family. Community Health Center, P.O. Box 672, Trinity, Texas. 713-594-3595 for Barnes, Colwell or Jones.

INTERNIST OR FAMILY PHYSICIAN with interest in cardiology to practice in group. Leisure hours, complete day off each week, and routine weekends. Hospital adjoining clinic. Located in Gulf Coast area easily accessible to Houston, San Antonio, Austin and Gulf Coast. Tired of city life? Contact Ad-429, *Texas Medicine*, 1801 North Lamar Blvd., Austin, Texas 78701.

CENTRAL TEXAS, GENERAL PRACTITIONER: Excellent location in the Lost Pines of Texas area, growing community of 3,500 along the beautiful Colorado River. Has an excellent opportunity for a good family general practitioner. Excellent small hospital (25 beds) and nursing home (65 beds) complex. Guaranteed salary if desired. Clinic, ancillary services and other fringe benefits will make this difficult to turn down if interested in working in a progressive rural community only 40 miles from a metropolitan area. Smithville Hospital Authority, Irvin Row, Administrator, Box 89, Smithville, Texas 78957. Phone AC512-237-2441.

EMERGENCY DEPARTMENT PHYSICIAN IN TEXAS: Average earnings $45,000 with guarantee. Full department status. Maintain free practice of medicine. Work for patient on fee-for-service basis. Call 1-512-653-8221. Apply to Ad-417, *Texas Medicine*, 1801 North Lamar Blvd., Austin, 78701.

Situations Wanted

SEEKING LOCATION—32 year old orthopedic surgery finishing training at The University of Texas Medical Branch in September 1973 desires to practice in a community of 30,000 to 125,000. Military obligation previously fulfilled. Please reply to Ad-408, *Texas Medicine*, 1801 North Lamar Blvd., Austin, Texas 78701.

GASTROENTEROLOGIST/INTERNIST: Board eligible, age 31, married, military completed. Tulane graduate, residency Barnes, fellowship North Carolina seeks association with internist in city greater than 150,000. To interview January 1973, available July 1973. Please reply to Ad-423, *Texas Medicine*, 1801 North Lamar Blvd., Austin, Texas 78701.

UROLOGIST, 34, married, children, university trained, FMG, board certified. Licensed in many states but desires to settle in Texas. Seeks association, solo or group practice. Prefers some academic or teaching affiliation. Please reply to Ad-422, *Texas Medicine*, 1801 North Lamar Blvd., Austin, Texas 78701.

FULL TIME LOCUM TENENS. Extensive experience family medicine and surgery. Can fill in for up to eight weeks while you go to post graduate courses, take a vacation or if you get sick or hurt. Contact Leonard B. Johnson, M.D., Box 1057, El Campo, Texas 77437. AC713-543-6235.

CERTIFIED SURGEON—GENERAL: Does hand and peripheral vascular. Age 34. Texas license. Desires to relocate in Texas with group, partnership or solo. Limited general practice if necessary. Available on short notice. Please reply to Ad-428, *Texas Medicine* 1801 North Lamar Blvd., Austin, Texas 78701.

GENERAL SURGEON looking for a position with a group or solo in the Dallas or San Antonio area, may consider other areas. Age 46. Diplomate of the American Board of Surgery. Wide experience in industrial and occupational medicine and willing to do general practice if needed. Reason for change: warmer climate, cannot stand very cold winters. Please reply to Ad-430, *Texas Medicine*, 1801 North Lamar Blvd., Austin, Texas 78701.

For Sale or For Rent

SOUTHEAST MEDICAL CENTER has customized suites available for immediate occupancy, 100 feet from Southeast Baptist Hospital. Ideal location in established quadrant of San Antonio where no medical specialists are offered. Only 17 minutes by freeway from downtown. Contact Manager, 4242 East Southcross, San Antonio 78222. Phone 222-2103.

FOR SALE OR FOR RENT. Making over $250,000. Due to retirement in six months, two doctors clinic for lease, rent or sale. No night calls, OB, or surgery. Regular hours. Privileges in local hospital. Congenial community. 90 miles from Houston, 20 miles from Beaumont. Please reply to Ad-409, *Texas Medicine*, 1801 North Lamar Blvd., Austin, Texas 78701.

WANTED: GENERAL PRACTITIONERS AND SPECIALISTS. Houston area, under construction, now leasing. Nottingham Forest Professional Center. 24 suites, plus lab, x-ray and pharmacy. Space and interiors custom made to serve each doctor's specific needs. Delightful townhouse environment in fast growing substantial Memorial-Dairy Ashford area. Contact Charles C. Bennett, D.D.S., 10038-B Long Point Road, Houston, Texas 77055, 713-465-8347; or Mike Malone, 713-524-9131.

SUBSTANTIAL SOLO MEDICAL PRACTICE FOR SALE. Prime location in El Paso, Texas (population 350,000+). Board certified. Internal medicine specialty for eighteen years. Located within medical center complex and centrally located as regards hospitals. Private laboratory facilities. For further information and particulars on financial aspects call AC 212-598-2550 or AC 212-677-0433.

FOR SALE: Four rooms of medical equipment in excellent condition. Includes Burdick Microtherm, Liebel Flarshiem Diathermy, Trutrac Traction Unit. Also a Ritter hydraulic table, 2 Allison examination tables with matching cabinets and stools. Assorted tables, cabinets, pans and instruments. Also a Picker 100/100 MA "R-1" $843 with foot operated control table. Like new waiting room furniture. Also three rooms of office furniture, including metal desks, chairs and filing cabinets. Contact Mrs. J. M. Burnett, 1223 East Terrell Avenue, Fort Worth, Texas 76104. Telephone 332-2793.

OFFICE FOR SALE—30 miles south of Dallas. In established medical center. Retiring partner ob/gyn, but would suit almost any type of practice. Rapid growth area. Telephone 214-937-6580 or reply P. O. Box 957, Waxahachie, Texas 75165.

MEDICAL SPACE FOR LEASE Blalock Professional Building, 9320 Westview Drive, Houston, Texas 77055. Short or long term leases with option to renew. Center of the Spring Branch-Memorial area in Northwest Houston. X-ray, laboratory and physical therapy facilities available. Family physician, ENT, internist, urologist, surgeon preferred. Lease space $.50 to $.60 per sq. ft. per month. Parking, utilities excluding telephone included. Professional Building protected by silent burgular alarm. Lease space will be shown by appointment. Call or write James E. Cook, Jr., M.D., 1-713-464-1557, 9320 Westview Drive, #2, Houston, Texas 77055.

FOR SALE: 3 rooms of medical equipment in excellent condition, ideal for someone just opening an office. Includes electric Ritter table, pediatric table with scale, Hamilton exam table with matching cabinet. Many assorted tables, pans, instruments, some laboratory equipment. 100 MA Profexray unit with dark room equipment. Contact Robert A. Lloyd, M.D., 1200 Ridgecrest, Denton, Texas 76201 or phone AC817-387-8182.

GENERAL PRACTICE in Southwest Houston—fastest growing area of city—Bellaire. Space available for lease formerly occupied by very busy GP with gross practice over $100,000. Location excellent with plenty parking and busy street Bissonnet. Close proximity to three hospitals. Dentist and apothecary are other tenants. Contact E. J. Jones, AC713-668-0569, 5122 Bissonnet, Bellaire, Texas 77401.

REST HAVEN. If you are interested in a rest haven away from the busy city life, write or call me. I have several tracts that are isolated away from the public that has good hunting and fishing. Ranging from 375 to 1750 acres. Contact Perry Hardin, Realtor, San Saba, Texas 76877. Telephone AC915, 372-5324 or 372-3088.

PHYSICIAN'S OFFICE. This is the former office of Dr. G. W. Cleveland, 1209 Parkway, Austin, Texas. It is designed to accommodate two doctors. Two waiting rooms, one extra large, two offices, four examining rooms, x-ray room, small lab and two rest rooms. All or part of equipment and furnishings available. Close in location. For more information, call or write Mr. Wilbur L. Smith, 4703 Sylvandale Drive, Austin, Texas 78745, AC512-442-5617 or 836-7220.

HOUSTON GENERAL PRACTICE FOR SALE: Prestigious four story professional building location on main boulevard. Excellent ground floor office with plenty of room. $90,000 gross and growing. Refers surgery, obstetrics, fractures. Almost no night calls. Near hospital. Professional Practice Sales, AC713-222-9112.

Classified ads in **Texas Medicine**
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PRIVATE PRACTICE OPPORTUNITY

In one of the most desirable areas in the Texas Gulf Coast Area. Memorial City Professional Building, in the Memorial Drive-Spring Branch Area of Houston, Texas, has just completed a fifty-seven suite addition. The Professional Building now consists of one hundred twenty offices and is connected to a new two hundred bed general hospital.

Over two hundred thousand people reside within a six mile radius of the Professional Building. The physician to population ratio is excellent to produce a rewarding private practice in virtually every specialty. Family practice especially needed. Some hospital connected opportunities.

Write or call Howard E. Troutt, Executive Director, Memorial City Medical Center, 920 Frostwood Drive, Suite 283, Houston, Texas 77024, (713) 464-2711.

1973 TEXAS CONTINUING EDUCATION DIRECTORY

This 1973 Directory of Continuing Education Courses for Texas physicians is the third annual directory produced in TEXAS MEDICINE. Nearly double the size of the previous directory, this edition contains more than 100 continuing education courses and approximately 70 medical meetings scheduled in Texas during the coming year.

The goal of the directory is to permit physicians to plan ahead for courses which they wish to attend and to give course planners an opportunity to inform physicians about their courses. Comments on the organization or the usefulness of the directory will be welcomed.

Institutions who wish to be listed in future directories should contact TEXAS MEDICINE, 1801 N. Lamar Blvd., Austin 78701 by Oct. 31, 1973, for information.

Courses contained in the directory are listed alphabetically by subject. Courses which may be listed under more than one subject will be cross-referenced where course sponsors have requested.

A calendar index by month is listed on page D-17 and all known major medical meetings for physicians are listed on page D-19.

Reprints of this directory will be made available by the Regional Medical Program of Texas.

ARTHRITIS & RHEUMATISM

TITLE:
The Rheumatic Diseases: Clinical and Immunological Aspects

SPONSORS:
American College of Physicians; UT Health Science Center at Dallas

LOCATION OF COURSE:
Marriott Motor Hotel, Dallas

DATE:
May 16-18, 1973

DURATION:
Continuous: 3 days; 6 hours instruction per day; 18 total course hours

FEE:
$80, ACP members; $125, nonmembers

ENROLLMENT:
Minimum 75, maximum 200

TEACHING METHODS:
Lecture, open question, panel

CONTACT:
Dr. Morris Ziff, Professor, Department of Internal Medicine, UT Health Science Center at Dallas, 5323 Harry Hines Blvd., Dallas 75235

TITLE:
Rheumatology for the Family Physician

SPONSORS:
UT Medical School at San Antonio

LOCATION OF COURSE:
UT Medical School at San Antonio

DATE:
October 25-December 20, 1973

DURATION:
Intermittent: 8 days; 8 weeks; 2 hours instruction per day; 16 total course hours

FEE:
$50

CREDIT:
16 hours, AAFP and Category 1, AMA Physician's Recognition Award

ENROLLMENT:
Minimum 10, maximum 20

TEACHING METHODS:
Audiovisual materials, clinical conference, lecture, open question, patient demonstration

CONTACT:
Dr. Paul Cutler, Associate Dean for Clinical Affairs, UT Medical School at San Antonio, 7703 Floyd Curl Dr., San Antonio 78284

BASIC SCIENCE

TITLE:
10th Symposium on Biomathematics and Computer Science in the Life Sciences

SPONSORS:
UT Health Science Center at Houston, Division of Continuing Education

LOCATION OF COURSE:
Marriott Motor Hotel, Houston

DATE:
March 29-31, 1973

DURATION:
Continuous: 3 days; 7 hours instruction per day; 18 total course hours

FEE:
$30

ENROLLMENT:
Unlimited

TEACHING METHODS:
Audiovisual materials, lecture, open question, panel

CONTACT:
Dr. Grant Taylor, Dean, Division of Continuing Education, UT Health Science Center at Houston, PO Box 20367, Houston 77025

TITLE:
Myocardial Biology

SPONSORS:
Baylor College of Medicine, Houston

LOCATION OF COURSE:
Baylor College of Medicine

DATE:
Summer 1973

DURATION:
Intermittent: 40 days; 20 weeks

FEE:
None

TEACHING METHODS:
Audiovisual materials, laboratory work, lecture, open question

CONTACT:
Dr. Arnold Schwartz, Professor and Head, Division of Myocardial Biology, Baylor College of Medicine, Texas Medical Center, Houston 77025

TITLE:
Regional Anatomy

SPONSORS:
UT Health Science Center at Houston, Division of Continuing Education

LOCATION OF COURSE:
Houston

DATE:
September 6, 1973- June 1974

DURATION:
Intermittent: 1 day; 40 weeks; 2 hours instruction per day; 100 total course hours

FEE:
$100

CREDIT:
AAFP

ENROLLMENT:
Minimum 10, maximum 20

TEACHING METHODS:
Audiovisual materials, enrollee performs procedure, lecture

CONTACT:
Dr. Grant Taylor, Dean, Division of Continuing Education, UT Health Science Center at Houston, PO Box 20367, Houston 77025

CARDIOVASCULAR DISEASE

TITLE:
Problems of Patients with Clinical Heart Disease

SPONSORS:
American Heart Association, Texas Affiliate, Inc.; UT Southwestern Medical School at Dallas

LOCATION OF COURSE:
Marriott Motor Hotel, Dallas

DATE:
June 21-23, 1973

DURATION:
Continuous: 2½ days; 20 total course hours

FEE:
$15, AHA members; $20, nonmembers

CREDIT:
8 prescribed hours, 12 elective hours, AAFP

ENROLLMENT:
Unlimited

TEACHING METHODS:
Audiovisual materials, lecture, open question, panel, seminar

CONTACT:
Dale Stringfellow, Program Director, American Heart Association, Texas Affiliate, Inc., PO Box 9928, Austin 78766

TITLE:
Management of Cardiac Disease in Infancy

SPONSORS:
UT Medical School at San Antonio

LOCATION OF COURSE:
UT Medical School at San Antonio

DATE:
September 14-15, 1973

DURATION:
Continuous: 2 days; 10 total course hours

FEE:
$50

CREDIT:
10 hours, AAFP & Category 1, AMA Physician's Recognition Award

ENROLLMENT:
Minimum 25

TEACHING METHODS:
Audiovisual materials, clinical conference, lecture, panel

CONTACT:
Dr. Paul Cutler, Associate Dean for Clinical Affairs, UT Medical School at San Antonio, 7703 Floyd Curl Dr., San Antonio 78284

TITLE:
Management of the Critically Ill Cardiac Patient

SPONSORS:
Baylor College of Medicine, Houston; Methodist Hospital, Houston; American College of Cardiology

LOCATION OF COURSE:
Jesse H. Jones Library Auditorium and Methodist Hospital, Houston

DATE:
April 4-6, 1973

DURATION:
Continuous: 2½ days; 8 hours instruction per day; 20 total course hours

FEE:
$120, ACC members; $170, nonmembers

CREDIT:
AMA Physician's Recognition Award

ENROLLMENT:
Minimum 100, maximum 250

TEACHING METHODS:
Audiovisual materials, clinical conference, enrollee observes procedure, enrollee performs procedure, lecture, open question, panel, patient demonstration, seminar

CONTACT:
Dr. Henry D. McIntosh, Professor and Chairman, Department of Medicine, Baylor College of Medicine, Texas Medical Center, Houston 77025

TITLE:
Clinical Physiology of the Cardiovascular System

SPONSORS:
Texas Tech University School of Medicine at Lubbock

LOCATION OF COURSE:
Texas Tech University School of Medicine

DATE:
October 18, 1973

DURATION:
1 day

FEE:
Not determined

CREDIT:
Not determined

TEACHING METHODS:
Audiovisual materials, open question, seminar

CONTACT:
Walter R. Gault, Texas Tech University School of Medicine, PO Box 4569, Lubbock 79409

TITLE:
Hypertension—A Workshop

SPONSORS:
UT Health Science Center at Houston, Division of Continuing Education

LOCATION OF COURSE:
Hyatt Regency Hotel, Houston

DATE:
February 8-9, 1973

DURATION:
Continuous: 2 days; 5 hours instruction per day; 10 total course hours

FEE:
$20

CREDIT:
AAFP

ENROLLMENT:
Unlimited

TEACHING METHODS:
Audiovisual materials, case presentations, lecture, open question, panel

CONTACT:
Dr. Grant Taylor, Dean, Division of Continuing Education, UT Health Science Center at Houston, PO Box 20367, Houston 77025

TITLE:
Newer Approaches to Diagnosis and Treatment of Hypertension

SPONSORS:
South Plains Chapter, Texas Academy of Family Physicians; Texas Tech University School of Medicine at Lubbock

LOCATION OF COURSE:
St. Mary of the Plains Hospital, Lubbock

DATE:
March 17, 1973

DURATION:
1 day; 8 total course hours

FEE:
Not determined

CREDIT:
Not determined

CONTACT:
Walter R. Gault, Texas Tech University School of Medicine, PO Box 4569, Lubbock 79409

TITLE:
Fourth Annual Texas Heart Institute Symposium—"A Physiologic Approach to Clinical Cardiology"

SPONSORS:
Texas Heart Institute, Houston

LOCATION OF COURSE:
Houston

DATE:
May 31-June 2, 1973

DURATION:
Continuous: 3 days; 16 total course hours

FEE:
$25

CREDIT:
16 hours, AAFP

ENROLLMENT:
Unlimited

TEACHING METHODS:
Audiovisual materials, lecture, open question, panel, seminar

CONTACT:
Dr. Robert J. Hall, Medical Director, Texas Heart Institute, One Bates Ave., Houston 77025

TITLE:
The Coronary Care Unit, Data Interpretation

SPONSORS:
The University of Texas at Austin, College of Engineering; The University of Texas System, School of Nursing

LOCATION OF COURSE:
Joe C. Thompson Conference Center, Austin

DATE:
Summer 1973

DURATION:
Continuous: 10 days; 1 hour instruction per day; 10 total course hours

FEE:
$25

CREDIT:
None

ENROLLMENT:
Maximum 40

TEACHING METHODS:
Audiovisual materials, lecture

CONTACT:
Dean E. Griffith, Director, Continuing Engineering Studies, College of Engineering, UT at Austin, PO Box K, Austin 78712

TITLE:
Current Trends in Cardiovascular Disease

SPONSORS:
Brooke General Hospital, Fort Sam Houston

LOCATION OF COURSE:
Brooke General Hospital

DATE:
April 18-21, 1973

DURATION:
Continuous: 2½ days; 20 total course hours

FEE:
None

CREDIT:
None

ENROLLMENT:
Minimum 30, maximum 125

TEACHING METHODS:
Audiovisual materials, clinical conference, lecture, open question, panel

CONTACT:
Dr. George M. McGranahan, Jr., COL, MC, Chief, Cardiology Service, Brooke General Hospital, Brooke Army Medical Center, Fort Sam Houston 78234

TITLE:
Clinical Cardiology Symposium

SPONSORS:
UT Health Science Center at Houston, Division of Continuing Education

LOCATION OF COURSE:
St. Joseph Hospital, Houston

DATE:
December 3-6, 1973

DURATION:
Continuous: 4 days; 2-5 hours instruction per day; 18 total course hours

FEE:
Not determined

CREDIT:
AAFP

ENROLLMENT:
Unlimited

TEACHING METHODS:
Case presentations, lecture

CONTACT:
Dr. Grant Taylor, Dean, Division of Continuing Education, UT Health Science Center at Houston, PO Box 20367, Houston 77025

TITLE:
A New Look at Treatable Hypertension

SPONSORS:
UT Medical School at San Antonio; Bexar County Medical Society

LOCATION OF COURSE:
UT Medical School at San Antonio

DATE:
March 30-31, 1973

DURATION:
Continuous: 2 days; 12 total course hours

FEE:
$25

CREDIT:
12 hours, AAFP and Category 1, AMA Physician's Recognition Award

ENROLLMENT:
Minimum 50, maximum 150

TEACHING METHODS:
Audiovisual materials, lecture, open question, panel, seminar

CONTACT:
Dr. Paul Cutler, Associate Dean for Clinical Affairs, UT Medical School at San Antonio, 7703 Floyd Curl Dr., San Antonio 78284

TITLE:
Second Annual Cardio-Pulmonary Seminar

SPONSORS:
Permian Basin Academy of Family Practice; American Heart Association

LOCATION OF COURSE:
Davis Mountains State Park, Fort Davis

DATE:
April 6-7, 1973

DURATION:
Continuous: 2 days; 7 total course hours

FEE:
$25

CREDIT:
AAFP, 7 prescribed hours

TEACHING METHODS:
Lecture, seminar

CONTACT:
Dr. Wm. Bart Pate, 202 N. 2nd St., Alpine 78930

TITLE:
Clinical Cardiology

SPONSORS:
UT Health Science Center at Houston, Division of Continuing Education

LOCATION OF COURSE:
Houston

DATE:
March 22-December 6, 1973

DURATION:
Intermittent: 1 day; 32 weeks; 2½ hours instruction per day; 100 total course hours

FEE:
$500

CREDIT:
AAFP

ENROLLMENT:
Maximum 15

TEACHING METHODS:
Audiovisual materials, lecture, open question

CONTACT:
Dr. Grant Taylor, Dean, Division of Continuing Education, UT Health Science Center at Houston, PO Box 20367, Houston 77025

TITLE:
Medical Intensive Care (see p. D-7, INTERNAL MEDICINE)

TITLE:
Basic Electrocardiography (see p. D-4, ELECTROCARDIOGRAPHY)

TITLE:
Clinical Pathology and the Cardiovascular Patient (see p. D-12, PATHOLOGY)

CHEST DISEASE

TITLE:
Fellowship in Chest Disease

SPONSORS:
East Texas Chest Hospital, Tyler

LOCATION:
East Texas Chest Hospital

DATE:
Given by arrangement with applicant

DURATION:
Postgraduate traineeship: 52 weeks

TEACHING METHODS:
Operative human surgery, panel, patient demonstration, programmed instruction, seminar

CONTACT:
Dr. Andrew Stenhouse, Director of Education and Research, East Texas Chest Hospital, PO Box 2003, Tyler 75701

TITLE:
Respiratory Diseases

SPONSORS:
UT Health Science Center at Houston, Division of Continuing Education

LOCATION OF COURSE:
Houston

DATE:
April 24-May 15, 1973

DURATION:
Intermittent: 1 day; 4 weeks; 2 hours instruction per day; 8 total course hours

FEE:
$35

CREDIT:
AAFP

ENROLLMENT:
Unlimited

TEACHING METHODS:
Audiovisual materials, lecture, open question

CONTACT:
Dr. Grant Taylor, Dean, Division of Continuing Education, UT Health Science Center at Houston, PO Box 20367, Houston 77025

TITLE:
Medical Intensive Care (see p. D-7, INTERNAL MEDICINE)

DERMATOLOGY

TITLE:
Dermatology for the Family Physician

SPONSORS:
UT Medical School at San Antonio

LOCATION OF COURSE:
UT Medical School at San Antonio

DATE:
October 27-28, 1973

DURATION:
Continuous: 2 days; 10 total course hours

FEE:
$50

CREDIT:
10 hours, AAFP and Category 1, AMA Physician's Recognition Award

ENROLLMENT:
Minimum 20, maximum 50

TEACHING METHODS:
Audiovisual materials, lecture, open question, panel

CONTACT:
Dr. Paul Cutler, Associate Dean for Clinical Affairs, UT Medical School at San Antonio, 7703 Floyd Curl Dr., San Antonio 78284

TITLE:
Family Practice Review
(see p. D-5, GENERAL MEDICINE)

ELECTROCARDIOGRAPHY

TITLE:
Basic Electrocardiography

SPONSORS:
UT Medical School at San Antonio

LOCATION OF COURSE:
UT Medical School at San Antonio

DATE:
September 13-November 15, 1973

DURATION:
Intermittent: 10 days; 10 weeks; 2 hours instruction per day; 20 total course hours

FEE:
$50

CREDIT:
20 hours, AAFP and Category 1, AMA Physician's Recognition Award

ENROLLMENT:
Minimum 10, maximum 20

TEACHING METHODS:
Audiovisual materials, enrollee observes procedure, lecture, open question, panel, programmed instruction, seminar

CONTACT:
Dr. Paul Cutler, Associate Dean for Clinical Affairs, UT Medical School at San Antonio, 7703 Floyd Curl Dr., San Antonio 78284

ENDOCRINOLOGY

TITLE:
Endocrine Vignettes

SPONSORS:
UT Health Science Center at Houston, Division of Continuing Education

LOCATION:
Houston

DATE:
April 4-25, 1973

DURATION:
Intermittent: 1 day; 4 weeks; 2 hours instruction per day; 8 total course hours

FEE:
$25

CREDIT:
AAFP

ENROLLMENT:
Unlimited

TEACHING METHODS:
Lecture

CONTACT:
Dr. Grant Taylor, Dean, Division of Continuing Education, UT Health Science Center at Houston, PO Box 20367, Houston 77025

GASTROENTEROLOGY

TITLE:
The William Beaumont Gastrointestinal Symposium

SPONSORS:
US Army Surgeon General; William Beaumont General Hospital, El Paso

LOCATION OF COURSE:
William Beaumont General Hospital

DATE:
March 7-9, 1973

DURATION:
Continuous: 3 days; 4 hours instruction per day; 12 total course hours

FEE:
None

ENROLLMENT:
Minimum 50, maximum 160

TEACHING METHODS:
Audiovisual materials, clinical conference, lecture, panel

CONTACT:
Dr. J. Loren Pitcher, LTC, MC, Chief, Department of Medicine and Gastroenterology Service, William Beaumont General Hospital, El Paso 79920

GENERAL MEDICINE

TITLE:
Symposium in General Medicine

SPONSORS:
Tom Green Eight Counties Medical Society; Lederle Laboratories

LOCATION OF COURSE:
San Angelo

DATE:
October 27, 1973 (given by arrangement with applicant)

DURATION:
1 day; 6 total course hours

FEE:
None

CREDIT:
6 hours, AAFP

ENROLLMENT:
Unlimited

TEACHING METHODS:
Audiovisual materials, lecture, open question, seminar

CONTACT:
Dr. John P. Coughlin, 2102 Pecos, San Angelo 76901

TITLE:
What's New in Clinical Practice

SPONSORS:
South Plains Chapter, Texas Academy of Family Physicians; Texas Tech University School of Medicine at Lubbock

LOCATION:
St. Mary of the Plains Hospital, Lubbock

DATE:
June 23, 1973

DURATION:
1 day; 12 total course hours

FEE:
Not determined

CREDIT:
Not determined

CONTACT:
Walter R. Gault, Texas Tech University School of Medicine, PO Box 4569, Lubbock 79409

TITLE:
Family Practice Review

SPONSORS:
UT Medical Branch at Galveston

LOCATION OF COURSE:
Holiday Inn, Galveston

DATE:
February 4-10, 1973

DURATION:
Continuous: 5½ days; 44 total course hours

FEE:
$110

CREDIT:
44 hours, AAFP

ENROLLMENT:
Minimum 100, maximum 110

TEACHING METHODS:
Audiovisual materials, lecture, panel, television

CONTACT:
Dr. Stephen R. Lewis, Director, Postgraduate Education, UT Medical Branch, Galveston 77550

TITLE:
Grand Rounds

SPONSORS:
Linden Municipal Hospital and Glenn-Garrett Clinic, Linden; UT Health Science Center at Dallas

LOCATION OF COURSE:
Linden Municipal Hospital

DATE:
Third Thursday of alternate months

DURATION:
Intermittent: 6 days; 3 hours instruction per day; 18 total course hours

FEE:
None

CREDIT:
AAFP, 3 hours per session

ENROLLMENT:
Unlimited

TEACHING METHODS:
Clinical conference

CONTACT:
Dr. John S. Chapman, Assistant Dean for Postgraduate Education, UT Health Science Center at Dallas, 5323 Harry Hines Blvd., Dallas 75235

TITLE:
Therapeutics Seminars

SPONSORS:
UT Medical School at San Antonio

LOCATION OF COURSE:
UT Medical School at San Antonio

DATE:
January 4-December 20, 1973 (alternating Thursdays, excluding June, July, and August)

DURATION:
Intermittent: 18 days; 1 hour instruction per day; 18 total course hours

FEE:
None

CREDIT:
18 hours, AAFP and Category 1, AMA Physician's Recognition Award

ENROLLMENT:
Unlimited

TEACHING METHODS:
Audiovisual materials, clinical conference, lecture, open question, panel, seminar, telephone or radio

CONTACT:
Dr. Paul Cutler, Associate Dean for Clinical Affairs, UT Medical School at San Antonio, 7703 Floyd Curl Dr., San Antonio 78284

TITLE:
Introduction to the Use of Hypnosis in Medical Practice

SPONSORS:
UT Medical School at San Antonio

LOCATION OF COURSE:
UT Medical School at San Antonio

DATE:
January 27, 1973

DURATION:
1 day; 6 total course hours

FEE:
$50

CREDIT:
6 hours, AAFP and Category 1, AMA Physician's Recognition Award

ENROLLMENT:
Minimum 10, maximum 20

TEACHING METHODS:
Audiovisual materials, enrollee observes procedure, enrollee performs procedure, open question, patient demonstration, seminar

CONTACT:
Dr. Paul Cutler, Associate Dean for Clinical Affairs, UT Medical School at San Antonio, 7703 Floyd Curl Dr., San Antonio 78284

TITLE:
Progress in Medicine and Surgery

SPONSORS:
Scott and White Memorial Hospital and Scott, Sherwood and Brindley Foundation, Temple

LOCATION:
Scott and White Memorial Hospital

DATE:
September 1973

DURATION:
Continuous: 2 days; 10 total course hours

FEE:
$35

CREDIT:
6 hours

ENROLLMENT:
Unlimited

TEACHING METHODS:
Audiovisual materials, bedside rounds, lecture, open question, panel

CONTACT:
Department of Education, Scott and White Memorial Hospital, Temple 76501

TITLE:
Management of the Critically Ill Cardiac Patient (see p. D-2, CARDIOVASCULAR DISEASE)

TITLE:
Common Eye Problems in Family Practice (see p. D-11, OPHTHALMOLOGY)

TITLE:
Ophthalmology for Family Physicians (see p. D-11, OPHTHALMOLOGY)

TITLE:
Dermatology for the Family Physician (see p. D-4, DERMATOLOGY)

TITLE:
Facial Palsy: Diagnosis and Management (see p. D-13, PHYSICAL MEDICINE & REHABILITATION)

TITLE:
Rheumatology for the Family Physician (see p. D-1, ARTHRITIS & RHEUMATISM)

TITLE:
Psychiatric Treatment in the 70's (see p. D-15, PSYCHIATRY)

TITLE:
Hematology for the Family Physician (see p. D-6, HEMATOLOGY)

TITLE:
A New Look at Treatable Hypertension (see p. D-3, CARDIOVASCULAR DISEASE)

TITLE:
Newer Approaches to Diagnosis and Treatment of Hypertension (see p. D-2, CARDIOVASCULAR DISEASE)

TITLE:
Hypertension—A Workshop (see p. D-2, CARDIOVASCULAR DISEASE)

TITLE:
The Use of Psychiatry in Family Practice (Basic Course) (see p. D-15, PSYCHIATRY)

TITLE:
Recent Advances in Managing Common Problems in Obstetrics & Gynecology (see p. D-10, OBSTETRICS & GYNECOLOGY)

TITLE:
Office Practice of Pediatrics and Neonatology (see p. D-13, PEDIATRICS)

TITLE:
Postgraduate Day on Male and Female Sterilization (see p.D-9, OBSTETRICS & GYNECOLOGY)

TITLE:
Human Genetics for the Family Physician and the Pediatrician (see p. D-6, GENETICS)

GENETICS

TITLE:
Human Genetics for the Family Physician and the Pediatrician

SPONSORS:
UT Medical School at San Antonio

LOCATION OF COURSE:
UT Medical School at San Antonio

DATE:
October 12-13, 1973

DURATION:
Continuous: 2 days; 12 total course hours

FEE:
$50

CREDIT:
12 hours, AAFP and Category 1, AMA Physician's Recognition Award

ENROLLMENT:
Minimum 25, maximum 100

TEACHING METHODS:
Audiovisual materials, lecture

CONTACT:
Dr. Paul Cutler, Associate Dean for Clinical Affairs, UT Medical School at San Antonio, 7703 Floyd Curl Dr., San Antonio 78284

HEMATOLOGY

TITLE:
Course on Hematology

SPONSORS:
UT Health Science Center at Houston, Division of Continuing Education

LOCATION OF COURSE:
Houston

DATE:
February 22-23, 1973

DURATION:
Continuous: 2 days; 11 total course hours

FEE:
$35

CREDIT:
AAFP

ENROLLMENT:
Unlimited

TEACHING METHODS:
Lecture

CONTACT:
Dr. Grant Taylor, Dean, Division of Continuing Education, UT Health Science Center at Houston, PO Box 20367, Houston 77025

TITLE:
Hematology for the Family Physician

SPONSORS:
UT Medical School at San Antonio

LOCATION OF COURSE:
UT Medical School at San Antonio

DATE:
June 23-24, 1973

DURATION:
Continuous: 2 days; 12 total course hours

FEE:
$50

CREDIT:
12 hours, AAFP and Category 1, AMA Physician's Recognition Award

ENROLLMENT:
Minimum 15, maximum 30

TEACHING METHODS:
Audiovisual materials, clinical conference, laboratory work, lecture, open question, seminar

CONTACT:
Dr. Paul Cutler, Associate Dean for Clinical Affairs, UT Medical School at San Antonio, 7703 Floyd Curl Dr., San Antonio 78284

INTERNAL MEDICINE

TITLE:
Heights Hospital Program

SPONSORS:
UT Health Science Center at Houston, Division of Continuing Education

LOCATION OF COURSE:
Heights Hospital, Houston

DATE:
February 2-May 18, 1973

DURATION:
Intermittent: 1 day; 16 weeks; 1 hour instruction per day; 16 total course hours

FEE:
$60

CREDIT:
AAFP

ENROLLMENT:
Unlimited

TEACHING METHODS:
Lecture

CONTACT:
Dr. Grant Taylor, Dean, Division of Continuing Education, UT Health Science Center at Houston, PO Box 20367, Houston 77025

TITLE:
Continuous Postgraduate Course in Internal Medicine

SPONSORS:
Dallas Internist Club; UT Health Science Center at Dallas

LOCATION OF COURSE:
B&B Restaurant, Dallas

DATE:
September 21, 1972-May 17, 1973
- February 1-22: Gastroenterology Section
- March 1-15: Hematology and Oncology Section
- March 22-29: Genetics Section
- April 5-26: Chest Diseases Section
- May 3-17: Pharmacology and Psychiatry Section

DURATION:
Intermittent: 1 hour each Thursday
- Gastroenterology: 5 total course hours
- Hematology and Oncology: 3 total course hours
- Genetics: 2 total course hours
- Chest Diseases: 4 total course hours
- Pharmacology and Psychiatry: 4 total course hours

FEE:
$70

ENROLLMENT:
Minimum 30, maximum 100

TEACHING METHODS:
Audiovisual materials, lecture, open question, patient demonstration

CONTACT:
Dr. Robert J. Potts, Chairman, Education Committee, Dallas Internist Club, 9229 Vinewood Dr., Dallas 75228

TITLE:
Survey of Drug Therapy

SPONSORS:
Veterans Administration Hospital, Big Spring; UT Health Science Center at Dallas

LOCATION OF COURSE:
Veterans Administration Hospital, Big Spring

DATE:
May 22-24, 1973

DURATION:
Continuous: 3 days; 5 hours instruction per day; 15 total course hours

FEE:
None

ENROLLMENT:
Maximum 30

TEACHING METHODS:
Bedside rounds, clinical conference, lecture, open question

CONTACT:
Dr. H. C. Ernsting, Chief of Staff, Veterans Administration Hospital, 2400 S. Gregg St., Big Spring 79720

TITLE:
Spring Clinical Conference

SPONSORS:
Dallas Southern Clinical Society

LOCATION:
Statler Hilton Hotel, Dallas

DATE:
March 12-14, 1973

DURATION:
Continuous: 3 days; 8 hours instruction per day; 25 total course hours

FEE:
$35

CREDIT:
25 elective hours, AAFP

ENROLLMENT:
Unlimited

TEACHING METHODS:
Audiovisual materials, clinical conference, lecture, live clinic, open question, panel, patient demonstration, seminar

CONTACT:
Robert L. Heath, Associate Executive Officer, Dallas Southern Clinical Society, 433 Medical Arts Bldg., Dallas 75201

TITLE:
Recent Developments in the Diagnosis and Management of Renal Disease

SPONSORS:
UT Medical School at San Antonio

LOCATION:
Kerrville

DATE:
June 9-10, 1973

DURATION:
Continuous: 2 days; 4 hours instruction per day; 8 total course hours

FEE:
$50

CREDIT:
8 hours, AAFP and Category 1, AMA Physician's Recognition Award

ENROLLMENT:
Minimum 15, maximum 30

TEACHING METHODS:
Audiovisual materials, lecture, open question, panel

CONTACT:
Dr. Paul Cutler, Associate Dean for Clinical Affairs, UT Medical School at San Antonio, 7703 Floyd Curl Dr., San Antonio 78284

TITLE:
Physiological Concepts in Internal Medicine

SPONSORS:
East Texas Internists Club; UT Southwestern Medical School at Dallas

LOCATION:
Medical Center Hospital, Tyler

DATE:
January-December, 1973 (3rd Thursday of each month, excluding March)

DURATION:
Intermittent: 1 day; 11 weeks; 3 hours instruction per day

FEE:
Membership in East Texas Internists Club

CREDIT:
None

DESIGNED FOR:
Internists

TEACHING METHODS:
Lecture, open question

CONTACT:
Dr. John S. Chapman, Assistant Dean for Postgraduate Education, UT Health Science Center at Dallas, 5323 Harry Hines Blvd., Dallas 75235

TITLE:
Medical Intensive Care

SPONSORS:
UT Medical School at San Antonio

LOCATION OF COURSE:
UT Medical School at San Antonio

DATE:
January 10-March 14; October 11-December 13, 1973

DURATION:
Intermittent: 10 days; 10 weeks; 9 hours instruction per day; 90 total course hours

FEE:
$150

CREDIT:
90 hours, AAFP and Category 1, AMA Physician's Recognition Award

ENROLLMENT:
Minimum 4, maximum 4

TEACHING METHODS:
Audiovisual materials, bedside rounds, clinical conference, enrollee observes procedure, lecture, open question, patient demonstration

CONTACT:
Dr. Paul Cutler, Associate Dean for Clinical Affairs, UT Medical School at San Antonio, 7703 Floyd Curl Dr., San Antonio 78284

TITLE:
Nuclear Medicine—Its Use in Defining Disease

SPONSORS:
UT Health Science Center at Houston, Division of Continuing Education; UT M.D. Anderson Hospital and Tumor Institute at Houston

LOCATION OF COURSE:
UT M.D. Anderson Hospital and Tumor Institute at Houston

DATE:
April 6-June 8; July 23-27, 1973

DURATION:
(April) Intermittent: 1 day; 10 weeks; 4 hours instruction per day; 40 total course hours. (July) Continuous: 5 days; 8 hours instruction per day; 40 total course hours

FEE:
$100

CREDIT:
AAFP

ENROLLMENT:
Minimum 5, maximum 15

TEACHING METHODS:
Clinical conference, enrollee observes procedure, enrollee performs procedure, lecture, live clinic, open question

CONTACT:
Dr. Grant Taylor, Dean, Division of Continuing Education, UT Health Science Center at Houston, PO Box 20367, Houston 77025

TITLE:
Meeting of the Sir William Osler Society of Internal Medicine

SPONSORS:
Sir William Osler Society of Internal Medicine; UT Health Science Center at Dallas

LOCATION OF COURSE:
Bethania Hospital, Wichita Falls

DATE:
January-June, September-November, 1973 (1st Tuesday of month)

DURATION:
Intermittent: 8 days; 8 weeks; 3 hours instruction per day; 24 total course hours

FEE:
Membership in Sir William Osler Society of Internal Medicine

CREDIT:
None

DESIGNED FOR:
Internists

TEACHING METHODS:
Lecture, open question

CONTACT:
Dr. John S. Chapman, Assistant Dean for Postgraduate Education, UT Health Science Center at Dallas, 5323 Harry Hines Blvd., Dallas 75235

TITLE:
Family Practice Review (see p. D-5, GENERAL MEDICINE)

TITLE:
The William Beaumont Gastrointestinal Symposium (see p. D-4, GASTRO-ENTEROLOGY)

TITLE:
Management of the Critically Ill Cardiac Patient (see p. D-2, CARDIOVASCULAR DISEASE)

TITLE:
Hypertension—A Workshop (see p. D-2, CARDIOVASCULAR DISEASE)

TITLE:
Newer Approaches to Diagnosis and Treatment of Hypertension (see p. D-2, CARDIOVASCULAR DISEASE)

TITLE:
A New Look at Treatable Hypertension (see p. D-3, CARDIOVASCULAR DISEASE)

TITLE:
Hematology for the Family Physician (see p. D-6, HEMATOLOGY)

TITLE:
Rheumatology for the Family Physician (see p. D-1, ARTHRITIS & RHEUMATISM)

TITLE:
Progress in Medicine and Surgery (see p. D-5, GENERAL MEDICINE)

TITLE:
Symposium in General Medicine (see p. D-4, GENERAL MEDICINE)

MALIGNANT DISEASE

TITLE:
Chemotherapy and Immunotherapy of Solid Tumors

SPONSORS:
UT Medical School at San Antonio

LOCATION OF COURSE:
UT Medical School at San Antonio

DATE:
May 18-19, 1973

DURATION:
Continuous: 2 days; 10½ total course hours

FEE:
None

CREDIT:
10½ hours, AAFP and Category 1, AMA Physician's Recognition Award

ENROLLMENT:
Unlimited

TEACHING METHODS:
Audiovisual materials, lecture, open question, panel, seminar

CONTACT:
Dr. Paul Cutler, Associate Dean for Clinical Affairs, UT Medical School at San Antonio, 7703 Floyd Curl Dr., San Antonio 78284

TITLE:
Radiologic and Other Biophysical Methods in Tumor Diagnosis

SPONSORS:
UT M. D. Anderson Hospital and Tumor Institute at Houston; UT Health Science Center at Houston; American Cancer Society and Texas Division, ACS; Texas Society of Pathologists

LOCATION OF COURSE:
Shamrock Hilton Hotel, Houston

DATE:
November 8-10, 1973

DURATION:
Continuous: 3 days; 6 hours instruction per day; 18 total course hours

FEE:
None

ENROLLMENT:
Unlimited

TEACHING METHODS:
Audiovisual materials, clinical conference, lecture, open question, panel

CONTACT:
Dr. Rulon W. Rawson, Vice President for Education and Program Development; UT M. D. Anderson Hospital and Tumor Institute, 6723 Bertner, Houston 77025

TITLE:
Wadley Symposium on Malignant Neoplasms

SPONSORS:
Wadley Institutes of Molecular Medicine, Dallas

LOCATION OF COURSE:
Dallas

DATE:
March 10, 1973

DURATION:
1 day; 7 total course hours

FEE:
$15

ENROLLMENT:
Maximum 180

TEACHING METHODS:
Audiovisual materials, lecture, open question, panel

CONTACT:
Dr. Joseph M. Hill, Executive Director, Wadley Institutes of Molecular Medicine, 9000 Harry Hines Blvd., Dallas 75235

TITLE:
Seventh Annual Clinical Cancer Conference

SPONSORS:
UT Health Science Center at Dallas

LOCATION OF COURSE:
UT Health Science Center at Dallas

DATE:
March 11, 1973 (given by arrangement with applicant)

DURATION:
1 day; 8 total course hours

CREDIT:
7 hours, AAFP

FEE:
Not determined

ENROLLMENT:
Unlimited

TEACHING METHODS:
Seminar

CONTACT:
Dr. John S. Chapman, Assistant Dean for Postgraduate Education, UT Health Science Center at Dallas, 5323 Harry Hines Blvd., Dallas 75235

TITLE:
Clinical Oncology

SPONSORS:
Baylor College of Medicine at Houston

LOCATION OF COURSE:
Baylor College of Medicine at Houston

DATE:
October 2-December 14, 1973

DURATION:
Intermittent: 24 days; 12 weeks; 1 hour instruction per day; 24 total course hours

FEE:
None

CREDIT:
None

ENROLLMENT:
Unlimited

TEACHING METHODS:
Audiovisual materials, clinical conference, lecture, open question, panel, seminar

CONTACT:
Dr. Montague Lane, Head, Division of Clinical Oncology, Baylor College of Medicine, Texas Medical Center, Houston 77025

TITLE:
30th Annual Tumor Seminar (see p. D-12, PATHOLOGY)

NEUROLOGY

TITLE:
Clinical Neurology

SPONSORS:
UT Health Science Center at Houston, Division of Continuing Education

LOCATION OF COURSE:
St. Anthony Center Auditorium, Houston

DATE:
March 13-April 10, 1973

DURATION:
Intermittent: 1 day; 5 weeks; 2 hours instruction per day; 10 total course hours

FEE:
$35

CREDIT:
AAFP

DESIGNED FOR:
Neurologists

ENROLLMENT:
Unlimited

TEACHING METHODS:
Audiovisual materials, lecture, open question

CONTACT:
Dr. Grant Taylor, Dean, Division of Continuing Education, UT Health Science Center at Houston, PO Box 20367, Houston 77025

TITLE:
Stroke Conference

SPONSORS:
Baylor College of Medicine at Houston

LOCATION OF COURSE:
Methodist Hospital and Ben Taub General Hospital, Houston

DATE:
July 1972-July 1973

DURATION:
Intermittent: 52 days; 52 weeks

FEE:
None

ENROLLMENT:
Minimum 1, maximum 10

TEACHING METHODS:
Clinical conference

CONTACT:
Dr. John S. Meyer, Professor and Chairman, Department of Neurology, Baylor College of Medicine, Texas Medical Center, Houston 77025

TITLE:
Neurology Grand Rounds

SPONSORS:
Baylor College of Medicine at Houston

LOCATION OF COURSE:
Ben Taub General Hospital, Veteran's Administration Hospital, and Methodist Hospital, Houston

DATE:
July 1972-July 1973

DURATION:
Intermittent: 52 days; 52 weeks

FEE:
None

ENROLLMENT:
Minimum 1, maximum 10

TEACHING METHODS:
Clinical conference

CONTACT:
Dr. John S. Meyer, Professor and Chairman, Department of Neurology, Baylor College of Medicine, Texas Medical Center, Houston 77025

TITLE:
Combined Neurology/Neurosurgery Conference

SPONSORS:
Baylor College of Medicine at Houston

LOCATION OF COURSE:
Methodist Hospital, Houston

DATE:
July 1972-July 1973

DURATION:
Intermittent: 52 days; 52 weeks

FEE:
None

ENROLLMENT:
Minimum 1, maximum 10

TEACHING METHODS:
Clinical conference

CONTACT:
Dr. John S. Meyer, Professor and Chairman, Department of Neurology, Baylor College of Medicine, Texas Medical Center, Houston 77025

TITLE:
Brain Cutting—Neuropathology Conference

SPONSORS:
Baylor College of Medicine at Houston

LOCATION OF COURSE:
Ben Taub General Hospital, Houston

DATE:
July 1972-July 1973

DURATION:
Intermittent: 52 days; 52 weeks

FEE:
None

ENROLLMENT:
Minimum 1, maximum 10

TEACHING METHODS:
Clinical conference

CONTACT:
Dr. John S. Meyer, Professor and Chairman, Department of Neurology, Baylor College of Medicine, Texas Medical Center, Houston 77025

TITLE:
Neural Organization and Its Relevance to Prosthetics

SPONSORS:
UT Health Science Center at Houston, Division of Continuing Education

LOCATION OF COURSE:
Marriott Motor Hotel, Houston
DATE:
March 1-3, 1973

DURATION:
Continuous: 3 days; 16 total course hours

FEE:
$65

CREDIT:
AAFP

ENROLLMENT:
Unlimited

TEACHING METHODS:
Lecture, open question

CONTACT:
Dr. Grant Taylor, Dean, Division of Continuing Education, UT Health Science Center at Houston, PO Box 20367, Houston 77025

NEUROSURGERY

TITLE:
Combined Neurology/Neurosurgery Conference

SPONSORS:
Baylor College of Medicine at Houston

LOCATION OF COURSE:
Methodist Hospital, Houston

DATE:
July 1972-July 1973

DURATION:
Intermittent: 52 days; 52 weeks

FEE:
None

ENROLLMENT:
Minimum 1, maximum 10

TEACHING METHODS:
Clinical conference

CONTACT:
Dr. John S. Meyer, Professor and Chairman, Department of Neurology, Baylor College of Medicine, Texas Medical Center, Houston 77025

OBSTETRICS & GYNECOLOGY

TITLE:
Postgraduate Day on Male and Female Sterilization

SPONSORS:
American Association of Planned Parenthood Physicians, Planned Parenthood of Houston; Baylor College of Medicine at Houston

LOCATION OF COURSE:
Baylor College of Medicine at Houston

DATE:
April 11, 1973

DURATION:
1 day

FEE:
$75

TEACHING METHODS:
Audiovisual materials, clinical conference, enrollee observes procedure, enrollee performs procedure, lecture, open question, panel, television

CONTACT:
Richard A. Ferguson, Executive Director, Planned Parenthood of Houston, 3601 Fannin, Houston 77004

TITLE:
Office Practice of Gynecology

SPONSORS:
South Plains Chapter, Texas Academy of Family Physicians; Texas Tech University School of Medicine at Lubbock

LOCATION OF COURSE:
St. Mary of the Plains Hospital, Lubbock

DATE:
September 15, 1973

DURATION:
1 day; 4 total course house

FEE:
Not determined

CREDIT:
Not determined

CONTACT:
Walter R. Gault, Texas Tech University School of Medicine, PO Box 4569, Lubbock 79409

TITLE:
Dr. T. F. Bunkley Seminar in Obstetrics and Gynecology

SPONSORS:
Scott and White Memorial Hospital and Scott, Sherwood and Brindley Foundation, Temple

LOCATION OF COURSE:
Scott and White Memorial Hospital

DATE:
October 1973

DURATION:
Not determined

FEE:
$20

CREDIT:
Not determined

ENROLLMENT:
Unlimited

TEACHING METHODS:
Audiovisual materials, lecture, open question, panel

CONTACT:
Department of Education, Scott and White Memorial Hospital, Temple 76501

TITLE:
To be announced

SPONSORS:
Southwestern Gynecologic Assembly

LOCATION OF COURSE:
Sheraton Hotel, Dallas

DATE:
December 6-8, 1973

DURATION:
Continuous: 3 days; 15 total course hours

FEE:
$85

DESIGNED FOR:
Obstetricians and gynecologists

ENROLLMENT:
Minimum 100, maximum 200

TEACHING METHODS:
Audiovisual materials, clinical conference, enrollee observes procedure, lecture, open question, panel, patient demonstration

CONTACT:
Dr. James T. Downs, III, Secretary, Southwestern Gynecologic Assembly, 433 Medical Arts Bldg., Dallas 75201

TITLE:
Spring Clinical Conference

SPONSORS:
Dallas Southern Clinical Society

LOCATION OF COURSE:
Statler Hilton Hotel, Dallas

DATE:
March 12-14, 1973

DURATION:
Continuous: 3 days; 8 hours instruction per day; 25 total course hours

FEE:
$35

CREDIT:
25 elective hours, AAFP

ENROLLMENT:
Unlimited

TEACHING METHODS:
Audiovisual materials, clinical conference, lecture, live clinic, open question, panel, patient demonstration, seminar

CONTACT:
Robert L. Heath, Associate Executive Officer, Dallas Southern Clinical Society, 433 Medical Arts Bldg., Dallas 75201

TITLE:
Recent Advances in Managing Common Problems in Obstetrics and Gynecology

SPONSORS:
UT Medical School at San Antonio

LOCATION OF COURSE:
UT Medical School at San Antonio

DATE:
April 28-29, 1973

DURATION:
Continuous: 2 days; 8 total course hours

FEE:
$100

CREDIT:
8 hours, AAFP and Category 1, AMA Physician's Recognition Award

ENROLLMENT:
Minimum 30, maximum 70

TEACHING METHODS:
Audiovisual materials, clinical conference, enrollee observes procedure, seminar

CONTACT:
Dr. Paul Cutler, Associate Dean for Clinical Affairs, UT Medical School at San Antonio, 7703 Floyd Curl Dr., San Antonio 78284

TITLE:
Family Practice Review (see p. D-5, GENERAL MEDICINE)

OPHTHALMOLOGY

TITLE:
Basic Science Course in Ophthalmology

SPONSORS:
UT Medical School at Houston

LOCATION OF COURSE:
UT Medical School at Houston

DATE:
January 8-March 2, 1973

DURATION:
Continuous: 40 days; 8 weeks; 6 hours instruction per day; 240 total course hours

FEE:
$600

ENROLLMENT:
Maximum 40

TEACHING METHODS:
Audiovisual materials, lecture, open question

CONTACT:
Dr. Richard S. Ruiz, Director of Ophthalmology, UT Medical School at Houston, Texas Medical Center, Houston 77025

TITLE:
Quarterly Lecture Series

SPONSORS:
Hermann Hospital, Houston; UT Medical School at Houston

LOCATION OF COURSE:
Hermann Hospital

DATE:
March, June, September, November 1973

DURATION:
Intermittent: 1 day; 4 weeks; 3 hours instruction per day

FEE:
None

ENROLLMENT:
Unlimited

TEACHING METHODS:
Lecture, open question

CONTACT:
Dr. Richard S. Ruiz, Director of Ophthalmology, UT Medical School at Houston, Texas Medical Center, Houston 77025

TITLE:
Annual Ophthalmology Alumni Meeting

SPONSORS:
Hermann Hospital, Houston; UT Medical School at Houston

LOCATION OF COURSE:
Hermann Hospital

DATE:
December 1973

DURATION:
1 day; 6 total course hours

FEE:
None

TEACHING METHODS:
Lecture

CONTACT:
Dr. Richard S. Ruiz, Director of Ophthalmology, UT Medical School at Houston, Texas Medical Center, Houston 77025

TITLE:
A Review of Sight Threatening Ocular Infections and Therapeutic Agents

SPONSORS:
Texas Tech University School of Medicine at Lubbock

LOCATION OF COURSE:
Texas Tech University School of Medicine at Lubbock

DATE:
February 15-16, 1973

DURATION:
1½ days

FEE:
Not determined

CREDIT:
Not determined

TEACHING METHODS:
Audiovisual materials, lecture, open question, panel, seminar

CONTACT:
Walter R. Gault, Texas Tech University School of Medicine, PO Box 4569, Lubbock 79409

TITLE:
Seventh Annual Postgraduate Alumni Meeting

SPONSORS:
UT Medical Branch at Galveston

LOCATION OF COURSE:
Shriners Burns Institute, UT Medical Branch, Galveston

DATE:
April 7, 1973

DURATION:
1 day; 8 total course hours

FEE:
$25

ENROLLMENT:
Unlimited

TEACHING METHODS:
Audiovisual materials, lecture, open question

CONTACT:
Dr. Hayne J. Sheffield, Jr., Senior Resident, Department of Ophthalmology, UT Medical Branch, Galveston 77550

TITLE:
Bi-Monthly Clinical Conference in Ophthalmology

SPONSORS:
UT Health Science Center at Dallas

LOCATION:
Parkland Memorial Hospital, Dallas

DATE:
February 21, May 16, July 18, September 19, November 21, 1973

DURATION:
Intermittent: 5 days; 8 hours instruction per day

FEE:
None

CREDIT:
None

ENROLLMENT:
Unlimited

TEACHING METHODS:
Clinical conference, lecture, open question, patient demonstration

CONTACT:
Dr. John S. Chapman, Assistant Dean for Postgraduate Education, UT Health Science Center at Dallas, 5323 Harry Hines Blvd., Dallas 75235

TITLE:
Common Eye Problems in Family Practice

SPONSORS:
UT Medical School at San Antonio

LOCATION OF COURSE:
Lakeway Inn & Marina, Austin

DATE:
April 7-8, 1973

DURATION:
Continuous: 2 days; 5 hours instruction per day; 10 total course hours

FEE:
$50

CREDIT:
10 hours, AAFP and Category 1, AMA Physician's Recognition Award

DESIGNED FOR:
General practitioners

ENROLLMENT:
Minimum 20

TEACHING METHODS:
Audiovisual materials, lecture, open question, panel, programmed instruction, television

CONTACT:
Dr. Paul Cutler, Associate Dean for Clinical Affairs, UT Medical School at San Antonio, 7703 Floyd Curl Dr., San Antonio 78284

TITLE:
Ophthalmology for Family Physicians

SPONSORS:
Texas Society for the Prevention of Blindness; Houston Eye Fund

LOCATION:
UT Medical School at Houston

DATE:
April 14, 1973

DURATION:
1 day; 6 total course hours

FEE:
$10

CREDIT:
6 prescribed hours, AAFP

TEACHING METHODS:
Audiovisual materials, lecture, open question

CONTACT:
Joanne Allen, Program Director, Texas Society for the Prevention of Blindness, 3617 Fannin, Houston 77004

TITLE:
Family Practice Review (see p. D-5, GENERAL MEDICINE)

ORTHOPEDIC SURGERY

TITLE:
Second Annual Symposium on Athletic Injuries

SPONSORS:
UT Medical School at San Antonio

LOCATION:
Joe C. Thompson Conference Center, Austin

DATE:
March 24-25, 1973

DURATION:
Continuous: 2 days; 12 total course hours

FEE:
$50

CREDIT:
12 hours, AAFP and Category 1, AMA Physician's Recognition Award

ENROLLMENT:
Minimum 50, maximum 150

TEACHING METHODS:
Audiovisual materials, enrollee observes procedure, lecture, live clinic, panel, television

CONTACT:
Dr. Paul Cutler, Associate Dean for Clinical Affairs, UT Medical School at San Antonio, 7703 Floyd Curl Drive, San Antonio 78284

TITLE:
What's New in Orthopaedics

SPONSORS:
American Academy of Orthopaedic Surgeons

LOCATION OF COURSE:
San Antonio Convention Center and Hilton Palacio del Rio Hotel, San Antonio

DATE:
September 5-7, 1973

DURATION:
Continuous: 3 days; 7 hours instruction per day; 21 total course hours

FEE:
$150

CREDIT:
21 hours

DESIGNED FOR:
Orthopedists

ENROLLMENT:
Maximum 400

TEACHING METHODS:
Audiovisual materials, lecture, open question, panel

CONTACT:
Dr. Charles A. Rockwood, Jr., UT Medical School at San Antonio, 7703 Floyd Curl Dr., San Antonio 78284

TITLE:
The Cervical Spine—Injuries and Surgery

SPONSORS:
St. Luke's Episcopal Hospital; Texas Children's Hospital; Baylor College of Medicine, Houston

LOCATION OF COURSE:
Auditorium of Texas Children's Hospital, Houston

DATE:
April 5-7, 1973

DURATION:
Continuous: 3 days; 20 total course hours

FEE:
$75

ENROLLMENT:
Maximum 350

DESIGNED FOR:
Orthopedic surgeons, residents in orthopedic surgery

TEACHING METHODS:
Lecture, panel

CONTACT:
Dr. Joseph Barnhart, 5620 Greenbriar, University Medical Center, Houston 77005

OTOLARYNGOLOGY

TITLE:
Educational Audiology

SPONSORS:
UT Medical Branch at Galveston

LOCATION OF COURSE:
Galvez Hotel, Galveston

DATE:
February 15-17, 1973
(given by arrangement with applicant)

DURATION:
Continuous: 3 days; 8 hours instruction per day; 24 total course hours

FEE:
$35

ENROLLMENT:
Minimum 50, maximum 150

TEACHING METHODS:
Audiovisual materials, lecture, open question, panel, television

CONTACT:
Dr. Richard W. Stream, Director and Associate Professor, Center for Audiology and Speech Pathology, UT Medical Branch, Galveston 77550

TITLE:
Workshop in Soft Tissue Surgery

SPONSORS:
UT Otolaryngology Training Programs (Dallas, Galveston, San Antonio)

LOCATION:
Callier Hearing and Speech Center, Dallas

DATE:
September 21-23, 1973

DURATION:
Continuous: 3 days;
20 total course hours

FEE:
$100

DESIGNED FOR:
Resident physicians

ENROLLMENT:
Maximum 60

TEACHING METHODS:
Audiovisual materials, enrollee performs procedure, laboratory work, lecture, open question, panel

CONTACT:
Dr. Jack P. Gunter, Chairman, Division of Otolaryngology, UT Health Science Center at Dallas, 8210 Walnut Hill Lane, #314, Dallas 75231

PATHOLOGY

TITLE:
A. C. Broders Lecture in Pathology

SPONSORS:
Scott and White Memorial Hospital and Scott, Sherwood and Brindley Foundation, Temple

LOCATION OF COURSE:
Scott and White Memorial Hospital

DATE:
March 1973

DURATION:
1 day; 1 hour instruction

FEE:
None

DESIGNED FOR:
Pathologists

ENROLLMENT:
Unlimited

TEACHING METHODS:
Lecture

CONTACT:
Department of Education, Scott and White Memorial Hospital, Temple 76501

TITLE:
30th Annual Tumor Seminar

SPONSORS:
San Antonio Society of Pathologists; American Cancer Society

LOCATION OF COURSE:
UT Medical School at San Antonio

DATE:
December 1, 1973

DURATION:
1 day

FEE:
$10

DESIGNED FOR:
Pathologists

ENROLLMENT:
Unlimited

TEACHING METHODS:
Audiovisual materials, lecture, seminar

CONTACT:
Dr. W. R. Laughlin, Secretary-Treasurer, San Antonio Society of Pathologists, Methodist Hospital, San Antonio 78229

TITLE:
Clinical Pathology and the Cardiovascular Patient

SPONSORS:
Houston Society of Clinical Pathologists; St. Luke's Episcopal Hospital, Houston; Texas Heart Institute

LOCATION OF COURSE:
St. Luke's Episcopal Hospital

DATE:
April 7, 1973

DURATION:
1 day

FEE:
$50

DESIGNED FOR:
Pathologists, cardiologists

ENROLLMENT:
Maximum 200

TEACHING METHODS:
Audiovisual materials, clinical conference, lecture, open question, panel, seminar

CONTACT:
Dr. John D. Milam, Seminar Chairman, Houston Society of Clinical Pathologists, St. Luke's Episcopal Hospital, Texas Medical Center, Houston 77025

TITLE:
Brain Cutting—Neuropathology
Conference (see p. D-9, NEUROLOGY)

PEDIATRICS

TITLE:
Postgraduate Pediatrics

SPONSORS:
UT Medical School at San Antonio; Santa Rosa Children's Hospital, San Antonio

LOCATION OF COURSE:
Santa Rosa Children's Hospital

DATE:
April 7-8, 1973

DURATION:
Continuous: 2 days;
12 total course hours

FEE:
None

CREDIT:
12 hours, AAFP and Category 1,
AMA Physician's Recognition Award

ENROLLMENT:
Unlimited

TEACHING METHODS:
Audiovisual materials, bedside rounds, lecture, live clinic, open question, panel

CONTACT:
Dr. Paul Cutler, Associate Dean for Clinical Affairs, UT Medical School at San Antonio, 7703 Floyd Curl Dr., San Antonio 78284

TITLE:
Seventh Annual Postgraduate Pediatric Seminar

SPONSORS:
UT Health Science Center at Dallas; Children's Medical Center, Dallas

LOCATION OF COURSE:
Children's Medical Center

DATE:
June 8-9, 1973
(given by arrangement with applicant)

DURATION:
Continuous: 2 days;
8 hours instruction per day;
16 total course hours

FEE:
$15

CREDIT:
10 hours, AAFP

ENROLLMENT:
Maximum 200

TEACHING METHODS:
Seminar

CONTACT:
Dr. John S. Chapman, Assistant Dean for Postgraduate Education, UT Health Science Center at Dallas, 5323 Harry Hines Blvd., Dallas 75235

TITLE:
Office Practice of Pediatrics and Neonatology

SPONSORS:
South Plains Chapter, Texas Academy of Family Physicians; Texas Tech University School of Medicine at Lubbock

LOCATION OF COURSE:
St. Mary of the Plains Hospital, Lubbock

DATE:
November 17, 1973

DURATION:
1 day; 4 total course hours

FEE:
Not determined

CREDIT:
Not determined

CONTACT:
Walter R. Gault, Texas Tech University School of Medicine, PO Box 4569, Lubbock 79409

TITLE:
Problems of Office Pediatrics

SPONSORS:
UT Medical Branch at Galveston; Pediatric Alumni Foundation, Inc.

LOCATION OF COURSE:
UT Medical Branch at Galveston

DATE:
March 15-16, 1973

DURATION:
Continuous: 2 days; 12 total course hours

FEE:
$75

CREDIT:
12 prescribed hours, AAFP

ENROLLMENT:
Minimum 100, maximum 200

TEACHING METHODS:
Audiovisual materials, lecture, open question, panel

CONTACT:
Dr. Lillian H. Lockhart, Assistant Professor of Pediatrics, UT Medical Branch, Galveston 77550

TITLE:
Learning Disorders in Children

SPONSORS:
Scott and White Memorial Hospital and Scott, Sherwood and Brindley Foundation, Temple

LOCATION OF COURSE:
Stagecoach Inn, Salado

DATE:
March 24, 1973

DURATION:
1 day; 6 total course hours

FEE:
$15

CREDIT:
3 hours, AAFP

ENROLLMENT:
Unlimited

TEACHING METHODS:
Audiovisual materials, lecture, open question, panel

CONTACT:
Department of Education, Scott and White Memorial Hospital, Temple 76501

TITLE:
Management of Cardiac Disease in Infancy (see p. D-2, CARDIOVASCULAR DISEASE)

TITLE:
Family Practice Review (see p. D-5, GENERAL MEDICINE)

TITLE:
Human Genetics for the Family Physician and the Pediatrician (see p. D-6, GENETICS)

PHYSICAL MEDICINE AND REHABILITATION

TITLE:
Diagnosis and Management of Common Musculoskeletal Pain Syndromes

SPONSORS:
UT Medical School at San Antonio

LOCATION OF COURSE:
UT Medical School at San Antonio

DATE:
March 3, 1973

DURATION:
1 day; 7 total course hours

FEE:
$50

CREDIT:
7 hours, AAFP and Category 1,
AMA Physician's Recognition Award

ENROLLMENT:
Minimum 10, maximum 20

TEACHING METHODS:
Audiovisual materials, lecture, patient demonstration

CONTACT:
Dr. Paul Cutler, Associate Dean for Clinical Affairs, UT Medical School at San Antonio, 7703 Floyd Curl Dr., San Antonio 78284

TITLE:
Facial Palsy: Diagnosis and Management

SPONSORS:
UT Medical School at San Antonio

LOCATION OF COURSE:
UT Medical School at San Antonio

DATE:
May 19, 1973

DURATION:
1 day; 7 total course hours

FEE:
$50

CREDIT:
7 hours, AAFP and Category 1,
AMA Physician's Recognition Award

ENROLLMENT:
Minimum 10, maximum 30

TEACHING METHODS:
Audiovisual materials, lecture, patient demonstration

CONTACT:
Dr. Paul Cutler, Associate Dean for Clinical Affairs, UT Medical School at San Antonio, 7703 Floyd Curl Dr., San Antonio 78284

TITLE:
Rheumatology for the Family Physician
(see p. D-1, ARTHRITIS & RHEUMATISM)

PSYCHIATRY

TITLE:
Child and Adolescent Emotional Problems and the Role of the Family

SPONSORS:
UT Health Science Center at Dallas

LOCATION OF COURSE:
UT Health Science Center at Dallas

DATE:
February 1-March 8, 1973
(given by arrangement with applicant)

DURATION:
Intermittent: 6 days; 6 weeks,
2 hours instruction per day;
12 total course hours

FEE:
$75

CREDIT:
12 hours, AAFP

ENROLLMENT:
Minimum 6, maximum 10

TEACHING METHODS:
Audiovisual materials, clinical conference, enrollee observes procedure, lecture, open question, seminar

CONTACT:
Dr. John S. Chapman, Associate Dean for Postgraduate Education, UT Health Science Center at Dallas, 5323 Harry Hines Blvd., Dallas 75235

TITLE:
Principles of Supportive Psychotherapy

SPONSORS:
UT Health Science Center at Dallas; Presbyterian Hospital of Dallas

LOCATION OF COURSE:
Presbyterian Hospital of Dallas

DATE:
May 8-29, 1973
(given by arrangement with applicant)

DURATION:
Intermittent: 4 days; 4 weeks;
2 hours instruction per day;
8 total course hours

FEE:
$45

CREDIT:
8 hours, AAFP

ENROLLMENT:
Minimum 4, maximum 8

TEACHING METHODS:
Clinical conference, lecture, open question, seminar

CONTACT:
Dr. John S. Chapman, Assistant Dean for Postgraduate Education, UT Health Science Center at Dallas, 5323 Harry Hines Blvd., Dallas 75235

TITLE:
Workshop in Psychotherapy for Psychiatrists

SPONSORS:
UT Medical School at San Antonio

LOCATION OF COURSE:
UT Medical School at San Antonio

DATE:
January 29, 1973

DURATION:
1 day; 6 total course hours

FEE:
$35

CREDIT:
6 hours, AAFP and Category 1, AMA Physician's Recognition Award

DESIGNED FOR:
Psychiatrists

ENROLLMENT:
Minimum 6, maximum 10

TEACHING METHODS:
Audiovisual materials, enrollee observes procedure, open question, patient demonstration, seminar

CONTACT:
Dr. Paul Cutler, Associate Dean for Clinical Affairs, UT Medical School at San Antonio, 7703 Floyd Curl Dr., San Antonio 78284

TITLE:
Tenth Annual Psychiatric Institute

SPONSORS:
Brooke General Hospital, Fort Sam Houston

LOCATION OF COURSE:
UT Medical School at San Antonio

DATE:
To be announced

DURATION:
1 day; 6 total course hours

FEE:
None

CREDIT:
None

ENROLLMENT:
Maximum 600

TEACHING METHODS:
Audiovisual materials, lecture, panel

CONTACT:
Dr. Earl D. Short, LTC, MC, Chief, Department of Psychiatry and Neurology, Brooke General Hospital, Brooke Army Medical Center, Fort Sam Houston 78234

TITLE:
3rd Helen Scott Saulsbury Lecture in Psychiatry

SPONSORS:
Scott and White Memorial Hospital and Scott, Sherwood and Brindley Foundation, Temple

LOCATION OF COURSE:
Scott and White Memorial Hospital

DATE:
October 1973

DURATION:
1 day; 1 hour instruction

FEE:
None

CREDIT:
1 hour, AAFP

ENROLLMENT:
Unlimited

TEACHING METHODS:
Lecture

CONTACT:
Department of Education, Scott and White Memorial Hospital, Temple 76501

TITLE:
Fundamentals of Psychotherapy Supervision

SPONSORS:
Baylor College of Medicine at Houston

LOCATION OF COURSE:
Baylor College of Medicine at Houston

DATE:
To be announced

FEE:
None

DESIGNED FOR:
Psychiatrists

ENROLLMENT:
Minimum 5, maximum 10

TEACHING METHODS:
Audiovisual materials, seminar

CONTACT:
Dr. David Freedman, Coordinator of Continuing Education in Psychiatry, Baylor College of Medicine, Texas Medical Center, Houston 77025

TITLE:
Seminars in Family Therapy

SPONSORS:
Baylor College of Medicine at Houston

LOCATION OF COURSE:
Baylor College of Medicine at Houston

DATE:
To be announced

FEE:
None

DESIGNED FOR:
Psychiatrists

ENROLLMENT:
Minimum 8, maximum 12

TEACHING METHODS:
Audiovisual materials, seminar

CONTACT:
Dr. David Freedman, Coordinator of Continuing Education in Psychiatry, Baylor College of Medicine, Texas Medical Center, Houston 77025

TITLE:
Psychiatry in Medical Practice

SPONSORS:
UT Health Science Center at Houston, Division of Continuing Education

LOCATION OF COURSE:
Houston

DATE:
January 25-April 26; September 6-December 6, 1973

DURATION:
Intermittent: 1 day; 14 weeks; 2 hours instruction per day; 28 total course hours

FEE:
$60

CREDIT:
AAFP

DESIGNED FOR:
Psychiatrists

ENROLLMENT:
Maximum 10

TEACHING METHODS:
Lecture, open question

CONTACT:
Dr. Grant Taylor, Dean, Division of Continuing Education, UT Health Science Center at Houston, PO Box 20367, Houston 77025

TITLE:
Intensive Review of Psychiatry for Physicians

SPONSORS:
UT Health Science Center at Houston, Division of Continuing Education

LOCATION OF COURSE:
Houston

DATE:
March 7-April 18, 1973

DURATION:
Intermittent: 1 day; 6 weeks; 2 hours instruction per day; 12 total course hours

FEE:
$35

CREDIT:
AAFP

DESIGNED FOR:
Psychiatrists

ENROLLMENT:
Unlimited

TEACHING METHODS:
Audiovisual materials, lecture, open question

CONTACT:
Dr. Grant Taylor, Dean, Division of Continuing Education, UT Health Science Center at Houston, PO Box 20367, Houston 77025

TITLE:
Psychiatric Treatment in the 70's

SPONSORS:
UT Medical School at San Antonio

LOCATION OF COURSE:
Kerrville

DATE:
October 19-20, 1973

DURATION:
Continuous: 2 days;
7 total course hours

FEE:
$75

CREDIT:
7 hours, AAFP and Category 1, AMA Physician's Recognition Award

ENROLLMENT:
Minimum 20, maximum 40

TEACHING METHODS:
Audiovisual materials, enrollee observes procedure, open question, seminar

CONTACT:
Dr. Paul Cutler, Associate Dean for Clinical Affairs, UT Medical School at San Antonio, 7703 Floyd Curl Dr., San Antonio 78284

TITLE:
The Use of Psychiatry in Family Practice (Basic Course)

SPONSORS:
UT Medical School at San Antonio

LOCATION OF COURSE:
UT Medical School at San Antonio

DATE:
March 1-May 17, 1973

DURATION:
Intermittent: 12 days; 12 weeks;
2½ hours instruction per day;
30 total course hours

FEE:
$75

CREDIT:
30 hours, AAFP and Category 1, AMA Physician's Recognition Award

ENROLLMENT:
Minimum 10, maximum 15

TEACHING METHODS:
Audiovisual materials, enrollee observes procedure, open question, patient demonstration, seminar, television

CONTACT:
Dr. Paul Cutler, Associate Dean for Clinical Affairs, UT Medical School at San Antonio, 7703 Floyd Curl Dr., San Antonio 78284

TITLE:
Seminars in Mental Health Problems

SPONSORS:
Texas Department of Mental Health and Mental Retardation

LOCATION OF COURSE:
Circuit:
San Antonio State Hospital, March 27, 1973;
Austin State Hospital, April 3, 1973;
Terrell State Hospital, April 10, 1973;
Wichita Falls State Hospital, April 17, 1973;
Big Spring State Hospital, April 24, 1973

DURATION:
1 day; 8 hours instruction

FEE:
None

CREDIT:
8 hours

TEACHING METHODS:
Lecture, open question, panel, seminar

CONTACT:
Dr. Ira Tunnell, Deputy Commissioner for Mental Health Services, Texas Department of Mental Health and Mental Retardation, Box 12668, Capitol Station, Austin 78711

TITLE:
Family Practice Review (see p. D-5, GENERAL MEDICINE)

TITLE:
Symposium in General Medicine (see p. D-4, GENERAL MEDICINE)

PUBLIC HEALTH

TITLE:
Postgraduate Day on Male and Female Sterilization (see p. D-9, OBSTETRICS & GYNECOLOGY)

RADIOLOGY AND RADIOISOTOPES

TITLE:
External Beam, Interstitial and Intracavitary Dosimetry—Principles

SPONSORS:
UT Health Science Center at Houston, Division of Continuing Education; UT M. D. Anderson Hospital and Tumor Institute at Houston

LOCATION OF COURSE:
UT M. D. Anderson Hospital and Tumor Institute at Houston

DATE:
July 2-13, 1973

DURATION:
Continuous: 10 days;
8 hours instruction per day;
80 total course hours

FEE:
$200

CREDIT:
Not determined

DESIGNED FOR:
Physicists and radiotherapists

ENROLLMENT:
Minimum 10; maximum 25

TEACHING METHODS:
Enrollee observes procedure, enrollee performs procedure, lecture, open question

CONTACT:
Dr. Grant Taylor, Dean, Division of Continuing Education, UT Health Science Center at Houston, PO Box 20367, Houston 77025

TITLE:
External Beam, Interstitial, and Intracavitary Dosimetry—Applications

SPONSORS:
UT Health Science Center at Houston, Division of Continuing Education; UT M. D. Anderson Hospital and Tumor Institute at Houston

LOCATION OF COURSE:
UT M. D. Anderson Hospital and Tumor Institute at Houston

DATE:
July 16-27, 1973

DURATION:
Continuous: 10 days;
8 hours instruction per day;
80 total course hours

FEE:
$200

CREDIT:
Not determined

DESIGNED FOR:
Radiotherapists, dosimetrists, and physicists

ENROLLMENT:
Minimum 10; maximum 18

TEACHING METHODS:
Enrollee observes procedure, enrollee performs procedure, lecture, open question

CONTACT:
Dr. Grant Taylor, Dean, Division of Continuing Education, UT Health Science Center at Houston, PO Box 20367, Houston 77025

TITLE:
External Beam, Interstitial, and Intracavitary Dosimetry—Computer Methods

SPONSORS:
UT Health Science Center at Houston, Division of Continuing Education; UT M. D. Anderson Hospital and Tumor Institute at Houston

LOCATION OF COURSE:
UT M. D. Anderson Hospital and Tumor Institute at Houston

DATE:
January 29-February 2,
July 30-August 3, 1973

DURATION:
Continuous: 5 days;
8 hours instruction per day;
40 total course hours

FEE:
$200

CREDIT:
Not determined

DESIGNED FOR:
Physicists and radiotherapists

ENROLLMENT:
Minimum 4; maximum 8

TEACHING METHODS:
Enrollee observes procedure, enrollee performs procedure, lecture, open question

CONTACT:
Dr. Grant Taylor, Dean, Division of Continuing Education, UT Health Science Center at Houston, PO Box 20367, Houston 77025

TITLE:
Radiologic and Other Biophysical Methods in Tumor Diagnosis
(see p. D-8, MALIGNANT DISEASE)

SURGERY

TITLE:
Spring Clinical Conference

SPONSORS:
Dallas Southern Clinical Society

LOCATION OF COURSE:
Statler Hilton Hotel, Dallas

DATE:
March 12-14, 1973

DURATION:
Continuous: 3 days; 8 hours instruction per day; 25 total course hours

FEE:
$35

CREDIT:
25 elective hours, AAFP

ENROLLMENT:
Unlimited

TEACHING METHODS:
Audiovisual materials, clinical conference, lecture, live clinic, open question, panel, patient demonstration, seminar

CONTACT:
Robert L. Heath, Associate Executive Officer, Dallas Southern Clinical Society, 433 Medical Arts Bldg., Dallas 75201

TITLE:
G. V. Brindley Lecture in Surgery

SPONSORS:
Scott and White Memorial Hospital and Scott, Sherwood and Brindley Foundation, Temple

LOCATION OF COURSE:
Scott and White Memorial Hospital

DATE:
September 4, 1973

DURATION:
1 day; 1 hour instruction

FEE:
None

CREDIT:
1 hour, AAFP

ENROLLMENT:
Unlimited

TEACHING METHODS:
Lecture

CONTACT:
Department of Education, Scott and White Memorial Hospital, Temple 76501

TITLE:
Progress in Medicine and Surgery

SPONSORS:
Scott and White Memorial Hospital and Scott, Sherwood and Brindley Foundation, Temple

LOCATION:
Scott and White Memorial Hospital

DATE:
September 1973

DURATION:
Continuous: 2 days;
10 total course hours

FEE:
$35

CREDIT:
6 hours, AAFP

ENROLLMENT:
Unlimited

TEACHING METHODS:
Audiovisual materials, bedside rounds, lecture, open question, panel

CONTACT:
Department of Education, Scott and White Memorial Hospital, Temple 76501

TITLE:
Family Practice Review (see p. D-5, GENERAL MEDICINE)

TITLE:
Evaluation of Trauma Patients
(see p. D-17, TRAUMA)

TITLE:
The William Beaumont Gastrointestinal Symposium (see p. D-4, GASTROENTEROLOGY)

TITLE:
Seventh Annual Clinical Cancer Conference (see p. D-8, MALIGNANT DISEASE)

TITLE:
Symposium in General Medicine
(see p. D-4, GENERAL MEDICINE)

TITLE:
Current Management of Trauma
(see p. D-17, TRAUMA)

TITLE:
Workshop in Soft Tissue Surgery
(see p. D-12, OTOLARYNGOLOGY)

TRAUMA

TITLE:
Current Management of Trauma

SPONSORS:
Brooke General Hospital, Fort Sam Houston; UT Medical School at San Antonio

LOCATION OF COURSE:
Brooke General Hospital

DATE:
March 5-9, 1973

DURATION:
Continuous: 4½ days; 7 hours instruction per day; 32 total course hours

FEE:
None

CREDIT:
32 hours, AAFP

ENROLLMENT:
Minimum 100, maximum 500

TEACHING METHODS:
Audiovisual materials, lecture, panel

CONTACT:
Dr. Richard E. George, COL, MC, Chief, Department of Surgery, Brooke General Hospital, Brooke Army Medical Center, Fort Sam Houston 78234

TITLE:
Evaluation of Trauma Patients

SPONSORS:
UT Medical School at San Antonio

LOCATION OF COURSE:
UT Medical School at San Antonio

DATE:
April 13-14, 1973

DURATION:
Continuous: 2 days; 6 hours instruction per day; 12 total course hours

FEE:
$50

CREDIT:
12 hours, AAFP and Category 1, AMA Physician's Recognition Award

ENROLLMENT:
Minimum 20, maximum 50

TEACHING METHODS:
Audiovisual materials, lecture, open question, panel

CONTACT:
Dr. Paul Cutler, Associate Dean for Clinical Affairs, UT Medical School at San Antonio, 7703 Floyd Curl Dr., San Antonio 78284

UROLOGY

TITLE:
Postgraduate Day on Male and Female Sterilization (see p. D-9, OBSTETRICS & GYNECOLOGY)

CALENDAR INDEX OF COURSES

JANUARY

General Medicine
Therapeutics Seminars, San Antonio, January 4-December 20
Introduction to the Use of Hypnosis in Medical Practice, San Antonio, January 27

Internal Medicine
Physiological Concepts in Internal Medicine, Tyler, January-December
Medical Intensive Care, San Antonio, January 10-March 14
Meeting of the Sir William Osler Society of Internal Medicine, Wichita Falls, January-June

Ophthalmology
Basic Science Course in Ophthalmology, Houston, January 8-March 2

Psychiatry
Workshop in Psychotherapy for Psychiatrists, San Antonio, January 29
Psychiatry in Medical Practice, Houston, January 25-April 26

Radiology and Radioisotopes
External Beam, Interstitial and Intracavitary Dosimetry—Computer Methods, Houston, January 29-February 2

FEBRUARY

Cardiovascular Disease
Hypertension—A Workshop, Houston, February 8-9

General Medicine
Family Practice Review, Galveston, February 4-10

Hematology
Course on Hematology, Houston, February 22-23

Internal Medicine
Heights Hospital Program, Houston, February 2-May 18
Continuous Postgraduate Course in Internal Medicine, Dallas, February 1-May 17

Ophthalmology
A Review of Sight Threatening Ocular Infections and Therapeutic Agents, Lubbock, February 15-16
Bi-Monthly Clinical Conference in Ophthalmology, Dallas, February 21

Otolaryngology
Educational Audiology, Galveston, February 15-17

Psychiatry
Child and Adolescent Emotional Problems and the Role of the Family, Dallas, February 1-March 8

MARCH

Basic Science
10th Symposium on Biomathematics and Computer Science in the Life Sciences, Houston, March 29-31

Cardiovascular Disease
Newer Approaches to Diagnosis and Treatment of Hypertension, Lubbock, March 17
A New Look at Treatable Hypertension, San Antonio, March 30-31
Clinical Cardiology, Houston, March 22-December 6

Gastroenterology
The William Beaumont Gastrointestinal Symposium, El Paso, March 7-9

Internal Medicine
Spring Clinical Conference, Dallas, March 12-14

Malignant Disease
Wadley Symposium on Malignant Neoplasms, Dallas, March 10
Seventh Annual Clinical Cancer Conference, Dallas, March 11

Neurology
Clinical Neurology, Houston, March 13-April 10
Neural Organization and Its Relevance to Prosthetics, Houston, March 13

Obstetrics and Gynecology
Spring Clinical Conferences, Dallas, March 12-14

Ophthalmology
Quarterly Lecture Series, Houston, March

Orthopedics
Second Annual Symposium on Athletic Injuries, Austin, March 24-25

Pathology
A. C. Broders Lecture in Pathology, Temple, March

Pediatrics
Problems of Office Pediatrics, Galveston, March 15-16
Learning Disorders in Children, Salado, March 24

Physical Medicine and Rehabilitation
Diagnosis and Management of Common Musculoskeletal Pain Syndromes, San Antonio, March 3

Psychiatry
The Use of Psychiatry in Family Practice (Basic Course), San Antonio, March 1-May 17
Seminars in Mental Health Problems, San Antonio, March 27
Intensive Review of Psychiatry for Physicians, Houston, March 7-April 18

Surgery
Spring Clinical Conference, Dallas, March 12-14
Seventh Annual Clinical Cancer Conference, Dallas, March 11

Trauma
Current Management of Trauma, Fort Sam Houston, March 5-9

APRIL

Cardiovascular Disease
Management of the Critically Ill Cardiac Patient, Houston, April 4-6
Current Trends in Cardiovascular Disease, Fort Sam Houston, April 18-21
Second Annual Cardio-Pulmonary Seminar, Fort Davis, April 6-7

Chest Disease
Respiratory Diseases, Houston, April 24-May 15

Endocrinology
Endocrine Vignettes, Houston, April 4-25

Internal Medicine
Nuclear Medicine—Its Use in Defining Disease, Houston, April 6-June 8

Obstetrics and Gynecology
Recent Advances in Managing Common Problems in Obstetrics and Gynecology, San Antonio, April 28-29
Postgraduate Day on Male and Female Sterilization, Houston, April 11

Ophthalmology
Seventh Annual Postgraduate Alumni Meeting, Galveston, April 7
Common Eye Problems in Family Practice, Austin, April 7-8
Ophthalmology for Family Physicians, Houston, April 14

Orthopedic Surgery
The Cervical Spine—Injuries and Surgery, Houston, April 5-7

Pathology
Clinical Pathology and the Cardiovascular Patient, Houston, April 7

Pediatrics
Postgraduate Pediatrics, San Antonio, April 7-8

Psychiatry
Seminars in Mental Health Problems, Austin, April 3; Terrell, April 10; Wichita Falls, April 17; Big Spring, April 24

Trauma
Evaluation of Trauma Patients, San Antonio, April 13-14

MAY

Arthritis and Rheumatism
The Rheumatic Diseases: Clinical and Immunological Aspects, Dallas, May 16-18

Cardiovascular Disease
Fourth Annual Texas Heart Institute Symposium—"A Physiologic Approach to Clinical Cardiology," Houston, May 31-June 2

Internal Medicine
Survey of Drug Therapy, Big Spring, May 22-24

Malignant Disease
Chemotherapy and Immunotherapy of Solid Tumors, San Antonio, May 18-19

Ophthalmology
Bi-Monthly Clinical Conference in Ophthalmology, Dallas, May 16

Physical Medicine and Rehabilitation
Facial Palsy: Diagnosis and Management, San Antonio, May 19

Psychiatry
Principles of Supportive Psychotherapy, Dallas, May 8-29

JUNE

Cardiovascular Disease
Problems of Patients with Clinical Heart Disease, Dallas, June 21-23

General Medicine
What's New in Clinical Practice, Lubbock, June 23

Hematology
Hematology for the Family Physician, San Antonio, June 23-24

Internal Medicine
Recent Developments in the Diagnosis and Management of Renal Disease, Kerrville, June 9-10

Ophthalmology
Quarterly Lecture Series, Houston, June

Pediatrics
Seventh Annual Postgraduate Pediatric Seminar, Dallas, June 8-9

JULY

Internal Medicine
Nuclear Medicine—Its Use in Defining Disease, Houston, July 23-27

Neurology
Stroke Conference, Houston, July 1972-July 1973
Neurology Grand Rounds, Houston, July 1972-July 1973
Combined Neurology/Neurosurgery Conference, Houston, July 1972-July 1973
Brain Cutting—Neuropathology Conference, Houston, July 1972-July 1973

Neurosurgery
Combined Neurology/Neurosurgery Conference, Houston, July 1972-July 1973

Ophthalmology
Bi-Monthly Clinical Conference in Ophthalmology, Dallas, July 18

Radiology and Radioisotopes
External Beam, Interstitial and Intracavitary Dosimetry—Principles, Houston, July 2-13
External Beam, Interstitial and Intracavitary Dosimetry—Applications, Houston, July 16-27
External Beam, Interstitial and Intracavitary Dosimetry, Computer Methods, Houston, July 30-August 3

SEPTEMBER

Basic Science
Regional Anatomy, Houston, September 6, 1973-June 1974

Cardiovascular Disease
Management of Cardiac Disease in Infancy, San Antonio, September 14-15

Electrocardiography
Basic Electrocardiography, San Antonio, September 13-November 15

General Medicine
Progress in Medicine and Surgery, Temple, September

Internal Medicine
Meeting of the Sir William Osler Society of Internal Medicine, Wichita Falls, September-November

Obstetrics and Gynecology
Office Practice of Gynecology, Lubbock, September 15

Ophthalmology
Quarterly Lecture Series, Houston, September
Bi-Monthly Clinical Conference in Ophthalmology, Dallas, September 19

Orthopedics
What's New in Orthopaedics, San Antonio, September 5-7

Otolaryngology
Workshop in Soft Tissue Surgery, Dallas, September 21-23

Psychiatry
Psychiatry in Medical Practice, Houston, September 6-December 6

Surgery
G. V. Brindley Lecture in Surgery, Temple, September 4
Progress in Medicine and Surgery, Temple, September

OCTOBER

Arthritis and Rheumatism
Rheumatology for the Family Physician, San Antonio, October 25-December 20

Cardiovascular Disease
Clinical Physiology of the Cardiovascular System, Lubbock, October 18

Dermatology
Dermatology for the Family Physician, San Antonio, October 27-28

General Medicine
Symposium in General Medicine, San Angelo, October 27

Genetics
Human Genetics for the Family Physician and the Pediatrician, San Antonio, October 12-13

Internal Medicine
Medical Intensive Care, San Antonio, October 11-December 13

Malignant Disease
Clinical Oncology, Houston, October 2-December 14

Obstetrics and Gynecology
Dr. T. F. Bunkley Seminar in Obstetrics and Gynecology, Temple, October

Psychiatry
3rd Helen Scott Saulsbury Lecture in Psychiatry, Temple, October
Psychiatric Treatment in the 70's, Kerrville, October 19-20

NOVEMBER

Malignant Disease
Radiologic and Other Biophysical Methods in Tumor Diagnosis, Houston, November 8-10

Ophthalmology
Quarterly Lecture Series, Houston, November
Bi-Monthly Clinical Conference in Ophthalmology, Dallas, November 21

Pediatrics
Office Practice of Pediatrics and Neonatology, Lubbock, November 17

DECEMBER

Cardiovascular Disease
Clinical Cardiology Symposium, Houston, December 3-6

Obstetrics and Gynecology
Southwestern Gynecologic Assembly, Dallas, December 6-8

Ophthalmology
Annual Ophthalmology Alumni Meeting, Houston, December

Pathology
30th Annual Tumor Seminar, San Antonio, December 1

1973 MEDICAL MEETINGS IN TEXAS

AMERICAN ACADEMY OF OPHTHALMOLOGY AND OTOLARYNGOLOGY, Dallas, Sept. 16-20, 1973. Dr. C. M. Kos, 15 Second St. SW, Rochester, Minn. 55901, exec. sec.

AMERICAN ACADEMY OF PEDIATRICS, TEXAS CHAPTER, Dallas, May 5, 1973; Austin, Sept. 21-23, 1973. Dr. Clarence E. Gilmore, 725 DeShong, Paris 75406, chrmn.

AMERICAN ASSOCIATION OF MEDICAL ASSISTANTS, STATE OF TEXAS, Dallas, May 16-20, 1973. Mrs. Patty Fouts, 2211 Lucas St., Wichita Falls 76303, sec.

AMERICAN ASSOCIATION OF PLANNED PARENTHOOD PHYSICIANS, Houston, April 11-14, 1973. Richard A. Ferguson, 3601 Fannin St., Houston 77004, exec. dir.

AMERICAN ASSOCIATION FOR THORACIC SURGERY, Dallas, April 16-18, 1973. William T. Maloney, AATS, 6 Beacon St., Suite 620, Boston 02108, exec. sec.

AMERICAN CANCER SOCIETY, TEXAS DIVISION, Dallas, Aug. 23-24, 1973. Curt W. Reimann, 5100 Ridge Oak, Austin 78731, exec. v-pres.

AMERICAN COLLEGE OF CHEST PHYSICIANS, TEXAS CHAPTER, Dallas, May, 1973. Dr. Byron N. Dooley, 7711 Louis Pasteur, San Antonio 78284, prog. chrmn.

AMERICAN COLLEGE OF EMERGENCY PHYSICIANS, TEXAS CHAPTER, Dallas, May, 1973. Dr. Robert S. Browne, 607 Woolworth, Port Arthur 77640, prog. chrmn.

AMERICAN COLLEGE OF SURGEONS, NORTH TEXAS CHAPTER, Dallas, May 19, 1973. Dr. Ronald F. Garvey, 6011 Harry Hines Blvd., Dallas 75235, sec.

AMERICAN COLLEGE OF SURGEONS, SOUTH TEXAS CHAPTER, Corpus Christi, Feb. 1-3, 1973. Dr. Peter B. Fisher, 615 Medical Towers, Houston 77025, sec.

AMERICAN HEART ASSOCIATION, TEXAS AFFILIATE, Dallas, June 19-24, 1973. Dale Stringfellow, PO Box 9928, Austin 78766, prog. dir.

AMERICAN MEDICAL ASSOCIATION, National Conference on Rural Health, Dallas, March 29-30, 1973. Dr. Bond L. Bible (PhD), AMA, 535 N. Dearborn St., Chicago 60610.

AMERICAN MEDICAL ASSOCIATION/ TEXAS MEDICAL ASSOCIATION, Speakers and Leadership Training Seminar, Austin, March 10-11, 1973. Jon R. Hornaday, TMA, 1801 N. Lamar Blvd., Austin 78701, dir. of pub. rela.

AMERICAN MEDICAL WRITERS ASSOCIATION, SOUTHWESTERN CHAPTER, Dallas, May 5, 1973. Judy Ingram, Scott and White Clinic, Temple 76501, sec.

AMERICAN PHYSICAL THERAPY ASSOCIATION, Houston, June 24-29, 1973. Royce P. Noland, 1156 15th St. NW, Washington, DC 20005, exec. dir.

AMERICAN PHYSICAL THERAPY ASSOCIATION, TEXAS CHAPTER, Waco, May 18-20, 1973. Hilda McKethan, 4162 Monaco, Waco 78411, sec.

AMERICAN PSYCHIATRIC ASSOCIATION, TEXAS DISTRICT BRANCH, Dallas, May 5, 1973. Dr. Harry K. Davis, 200 University Blvd., Galveston 77550, sec.-treas.

CONFERENCE OF CITY AND COUNTY HEALTH OFFICERS, Dallas, May 4, 1973. Dr. J. E. Peavy, 1100 W. 49th St., Austin 78756, chrmn.

DALLAS SOUTHERN CLINICAL SOCIETY, Dallas, March 12-14, 1973. Millard J. Heath, 433 Med. Arts Bldg., Dallas 75201, exec. ofc.

EIGHTH DISTRICT MEDICAL SOCIETY, Bay City, April 14, 1973. Dr. Edward F. Pesek, 1413 Avenue G, Bay City 77414, sec.

FIFTH DISTRICT MEDICAL SOCIETY, San Antonio, Feb. 16, 1973. S. E. Cockrell, Jr., 202 W. French Pl., San Antonio 78212, exec. dir.

FLYING PHYSICIANS ASSOCIATION, TEXAS CHAPTER, Dallas, May, 1973. Dr. Richard L. Gilkey, 1410 W. Jefferson, Waxahachie 75165, sec.-treas.

INTERNATIONAL COLLEGE OF SURGEONS, TEXAS STATE SURGICAL DIVISION, Dallas, May 3, 1973. Dr. Lewis M. Helfer, 208 Med. Prof. Bldg., San Antonio 78212, prog. chrmn.

INTERNATIONAL MEDICAL ASSEMBLY OF SOUTHWEST TEXAS, San Antonio, Feb. 15-16, 1973. S. E. Cockrell, Jr., 202 W. French Pl., San Antonio 78212, exec. dir.

NINTH DISTRICT MEDICAL SOCIETY, Navasota, March 15, 1973. Dr. Mac M. Diamond, 3332 Plainview, Pasadena 77504, sec.

PANHANDLE DISTRICT MEDICAL SOCIETY, Lubbock, Sept. 15, 1973. Carlie Umphres, PO Box 3276, Amarillo 79106, exec. ofc.

SAMA-UTMB NATIONAL STUDENT RESEARCH FORUM, Galveston, April 26-28, 1973. UT Medical Branch, Galveston 77550.

SOUTH CENTRAL ASSOCIATION OF BLOOD BANKS, Corpus Christi, May 23-25, 1973. Elsie G. Howard, 2109 Commerce, Dallas 75201, exec. sec.

TENTH DISTRICT MEDICAL SOCIETY, April 1973. Joseph S. Trum, PO Box 802, Beaumont 77704, exec. sec.

TEXAS ACADEMY OF FAMILY PHYSICIANS, San Antonio, Nov. 5-7, 1973. Donald C. Jackson, 1905 N. Lamar Blvd., Austin 78705, exec. dir.

TEXAS ACADEMY OF FAMILY PHYSICIANS, CENTRAL TEXAS CHAPTER, Waco, third Wednesday evening of each month, 1973. Dr. Donald Gloff, Clifton 76634, sec.

TEXAS ACADEMY OF INTERNAL MEDICINE, Dallas, December, 1973. Dr. Tom W. Duke, PO Box 3460, Amarillo 79106, sec.-treas.

TEXAS AIR-MEDICS ASSOCIATION, Dallas, May 3, 1973. Dr. C. F. Miller, Box 1338, Waco 76703, sec.

TEXAS ASSOCIATION FOR CHILDREN WITH LEARNING DISABILITIES, El Paso, Oct. 18-20, 1973. Virginia Kurko, 6012 Wisen Ave., Ft. Worth 76133, pres.

TEXAS ASSOCIATION OF OBSTETRICIANS AND GYNECOLOGISTS, Austin, March 16-17, 1973. Dr. Dennis M. Voulgaris, 2100 N. Fulton St., Wharton 77488, sec.-treas.

TEXAS ASSOCIATION OF PHYSICIANS IN NUCLEAR MEDICINE, Dallas, May 5, 1973. Dr. Frederick C. Petty, Scott and White Clinic, Temple 76501, sec.-treas.

TEXAS ASSOCIATION OF PUBLIC HEALTH PHYSICIANS, Dallas, May 3, 1973. Dr. Bernard F. Rosenblum, 222 S. Campbell, El Paso 79901, prog. chrmn.

TEXAS COMMISSION ON ALCOHOLISM, Dallas, May 3, 1973. K. E. Beahan, 809 Sam Houston State Office Bldg., Austin 78701, exec. dir.

TEXAS DENTAL ASSOCIATION, Austin, April 29-May 2, 1973. Dr. Joe C. Carrington, Jr., 4920 Interregional Hwy., Austin 78751, exec. ofc.

TEXAS DERMATOLOGICAL SOCIETY, Dallas, May 5, 1973; San Antonio, Nov. 12-15, 1973. Dr. Eugene P. Schoch, Jr., 3A Med. Arts Sq., Austin 78705, sec.

TEXAS DIABETES ASSOCIATION, Dallas, May 5, 1973. Dr. Eric A. Orzeck, 918 Medical Towers, Houston 77025, prog. chrmn.

TEXAS HOSPITAL ASSOCIATION, Houston, May 20-23, 1973. O. Ray Hurst, PO Box 4553, Austin 78765, exec. ofc.

TEXAS INDUSTRIAL MEDICAL ASSOCIATION, Dallas, May 4, 1973. Dr. John G. Lione, PO Box 2180, Houston 77001, prog. chrmn.

TEXAS MEDICAL ASSOCIATION, Austin, Jan. 19-21, 1973; Dallas, May 3-6, 1973; Austin, Oct. 5-7, 1973. C. Lincoln Williston, 1801 N. Lamar Blvd., Austin 78701, exec. sec.

TEXAS NURSING HOME ASSOCIATION, Houston, Jan 19-21, 1973. Sid Rich, 6225 US Hwy. 290 E., Austin 78723, exec. dir.

TEXAS OPHTHALMOLOGICAL ASSOCIATION, Dallas, May 4-5, 1973. Dr. David S. Dow, 2223 Austin Ave., Waco 76701, sec.

TEXAS ORTHOPAEDIC ASSOCIATION, Dallas, May 4-5, 1973. Dr. L. Ray Lawson, 2828 Lemmon Ave., Dallas 75204, sec.

TEXAS OTOLARYNGOLOGICAL ASSOCIATION, Dallas, May 4, 1973. Dr. Ernest Nalle, Jr., 1312 Main St., Lubbock 79401, prog. chrmn.

TEXAS PEDIATRIC SOCIETY, Austin, Sept. 20-22, 1973. Dr. Pat A. Cato, 1015 E. 32nd St., Austin 78705, sec.

TEXAS PHARMACEUTICAL ASSOCIATION, San Antonio, June 20-23, 1973. Luther R. Parker, PO Box 4487, Austin 78701, exec. ofc.

TEXAS PHYSICAL MEDICINE AND REHABILITATION SOCIETY, Dallas, May 4, 1973. Dr. Billy B. Hoover, 5909 Harry Hines Blvd., Dallas 75235, prog. chrmn.

TEXAS PROCTOLOGIC SOCIETY, Dallas, May 3, 1973. Dr. E. Aubrey Cox, 5th & Broad Sts., Wichita Falls 76301, prog. chrmn.

TEXAS PUBLIC HEALTH ASSOCIATION, Dallas, Feb. 18, 1973. Robert E. Monroe, 1117 W. 42nd St., Austin 78756, exec. sec.-treas.

TEXAS RADIOLOGICAL SOCIETY, Fort Worth, March 2-3, 1973. Dr. John S. Alexander, 1217 W. Cannon, Ft. Worth 76104, prog. chrmn.

TEXAS RHEUMATISM ASSOCIATION, Dallas, May 5, 1973. Dr. Robert H. Persellin, 7703 Floyd Curl Dr., San Antonio 78284, prog. chrmn.

TEXAS SOCIETY OF ANESTHESIOLOGISTS, Dallas, May 5-6, 1973. Dr. Jack A. Gray, 940 N. Cooper St., Arlington 76010, prog. chrmn.

TEXAS SOCIETY OF ATHLETIC TEAM PHYSICIANS, Dallas, May 4, 1973. Dr. Louis R. Robey, 4120 Lyons Ave., Houston 77020, prog. chrmn.

TEXAS SOCIETY OF INTERNAL MEDICINE, Dallas, December, 1973. Dr. O. Roger Hollan, 703 Nix Prof. Bldg., San Antonio 78205, sec.-treas.

TEXAS SOCIETY OF PATHOLOGISTS, Galveston, Jan. 26-28, 1973; Dallas, May 6, 1973. Dr. James C. Stinson, Scott and White Clinic, Temple 76501, sec.-treas.

TEXAS SOCIETY OF PLASTIC SURGEONS, Dallas, May 4-5, 1973. Dr. Melvin Spira, 1200 Moursund, Houston 77025, prog. chrmn.

TEXAS SOCIETY FOR THE PREVENTION OF BLINDNESS, INC., Houston, Jan. 31, 1973. Dr. James H. Scruggs, Jr., 2223 Austin Ave., Waco 76701, chrmn.

TEXAS SOCIETY FOR SURGERY OF TRAUMA, Dallas, May, 1973. Dr. Henry G. Glass, 600 Hermann Prof. Bldg., Houston 77025, sec.-treas.

TEXAS SURGICAL SOCIETY, Galveston, April 1-3, 1973. Dr. Robb H. Rutledge, 901 W. Lake, Ft. Worth 76104, sec.

TEXAS TUBERCULOSIS AND RESPIRATORY DISEASE ASSOCIATION, Dallas, April 12-14, 1973. Pauline K. Matthis, 2406 Manor Rd., Austin 78722, exec. dir.

THIRTEENTH DISTRICT MEDICAL SOCIETY, Mineral Wells, April 1973. Dr. Dorothy Patras, PO Box 1118, Ft. Worth 76101, sec.-treas.

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ADVERTISING RATES & DATA: Available on request from the Advertising Director, Texas Medicine. Advertising plates should be sent directly to the printer. Space reservations, copy and proofs should be sent to the Advertising Director. Represented nationally by the State Medical Journal Advertising Bureau, Inc., 1010 Lake Street, Oak Park, Ill. 60301.

ADVERTISING & BUSINESS OFFICES: Texas Medical Association, 1801 North Lamar Blvd., Austin 78701; Telephone 512-477-6704.

PRINTING OFFICES: Texas Medicine, c/o Stafford-Lowdon Company, 1114 West Daggett, Fort Worth 76104.

Editorials

WACO PHYSICIANS PRACTICE INVOLVEMENT

During recent months, much has appeared in the lay press and in medical circles concerning a "crisis" in health care delivery. Authorities have noted that, in spite of stunning technical achievement, significant improvement in the general health of our population is slow to arrive. Many have debated the extent of this gap and myriad solutions have been suggested.

This article is written to briefly describe practical efforts of a county medical society in this regard. It is written from the viewpoint of a resident involved in the Family Practice Program.

Background: Waco, Texas, is a middle-sized town of slightly more than 100,000 people. Once infamous for its highway traffic circle, Waco is today an agricultural, industrial, and business center for the "Heart O' Texas." In addition, it is the home of Baylor University.

Medical needs of the community are met by some 150 private physicians representing most specialties. The town has two "good-sized" private hospitals which are now in the process of expansion, and a large VA psychiatric center.

Prior to 1969, several problems of medical significance were being discussed. Indigent medical care was thought to be less than adequate by some of the community leaders. Patients were seen in an overloaded city clinic by a single physician. Many patients were seen as "charity cases" by local doctors. A lack of physicians in the Central Texas area was obvious. The mean age of doctors in Waco was greater than the state or national average. Few new physicians were coming into the city and surrounding area. There was no house staff in the hospitals and emergency room coverage was difficult for the private doctors engaged in their busy practice.

Residency Program and Community Health Center: At committee meetings of the McLennan County Medical Society, the concept of a community health center was discussed. This center was expected to provide comprehensive medical care for any person desiring the use of its facilities. It was felt that the establishment of a Family Practice Residency Program would solve the staffing problem.

At a national level, a resurgence of interest in the new field of family medicine was occurring. The number of training programs in this specialty was in a rapid growth phase when application for approval was granted by appropriate authorities for the McLennan County Medical Society Family Practice Residency Program. It was the first program in this country sponsored by a county medical society. A substantial grant from the Model Cities Agency in Waco provided initial funds.

Residents find many advantages in the program. The small-town atmosphere is a relaxing change of pace to individuals who come from large cities. The presence of a major university guarantees access to cultural and recreational events.

An intense effort is maintained in order to provide an excellent teaching program. Daily noon conferences are conducted by various specialists in the county medical society. An active out-of-town speaker program brings experts in all fields to Waco. In addition, educational meetings of the GP Club, Journal Club and the McLennan County Medical Society are provided. Videotape programs are available. The residents are encouraged to attend out-of-town meetings at no personal expense. Weekly grand rounds are presented to both attending and house staff.

The establishment of such a program in an area away from medical schools may be viewed as a disadvantage, but closer cooperation with various private attending specialists has resulted in adequate support and excellent patient care. The family practice residents are not in competition with house staff in other specialties.

Summary: As a result of cooperative efforts by the McLennan County Medical Society, a number of social and medical problems have been alleviated. With the establishment of a community health clinic and an associated family practice residency, private physicians are relieved of a substantial portion of their indigent care burden. The introduction of new young physicians into the Central Texas Area is welcomed. Private physicians are involved in an active medical education program. Patients have access to a comprehensive medical care system of high quality.

The results of this endeavor are a tribute to members of the county medical society. Cooperative activity by physicians on a local level can help to solve the "crisis" in health care delivery.

Paul P. Rountree, MD, Waco.

TRENDELENBURG OR GRUBNELEDNERT: A POSITION STATEMENT

This editorial plumps for a cause which is dear to my heart: the Society for the Adulation of Grubneledner (SAG).

Before telling you about Dr. Grubneledner, let me take you briefly into the hospital's operating room. The patient is anesthetized, the surgeon gowned and gloved, lights adjusted, and the operation begins. Soon the surgeon says, "Place the patient in the Trendelenburg position," meaning simply to lower the head of the table (Fig 1). This position is named in honor of its originator, Dr. Friedrich Trendelenburg, an eminent surgeon of former years.

At other times the surgeon may deem that the head of the table should be elevated. Logically, this position is called the Reverse Trendelenburg (Fig 2).

Dr. Phineas U. Grubneledner, an accomplished surgeon in the remote hills of Outer Tasmania, developed the head-up position (Fig 2) independently, 14 years prior to Dr. Trendelenburg's discovery. It is a coincidence in medical history that the names of these two men of the same profession are a palindrome. It is a tragedy of medical history that the research of Dr. Grubneledner has gone unheralded through the years, his discovery not having been documented

1.

2.

in the medical literature of his day. For had his work been published, the Trendelenburg position (Fig 1) might well be known today as the Reverse Grubnelednert position!

It was in commemoration of Dr. Grubneledner that SAG was founded.

A foremost challenge to SAG is the web of obscurity besetting countless unsung medical and other scientific heroes, who languish in anonymity even now because their labors are unpublished and therefore unrequited. Untold numbers of computer information retrieval systems suffer malnourishment for lack of input, their expertly trained crews reduced to playing chess in the hallways or throwing Frisbees outside. Practicing physicians, who soon will have many more leisure hours once the crisis in medical manpower is resolved, live in dread of not having enough journals to read in fulfillment of their continuing education requirements.

Your contributions will make possible SAG-sponsored scholarships to promising and nonpromising writers alike. The cherished dream of SAG is that one day an article will be published about any and every finding, no matter how inconsequential it might seem at that particular moment in time. Our motto is "Yesterday's minutiae begets today's trivia, which spawns tomorrow's esoterica."

Recently a SAG-sponsored scholarship recipient burst triumphantly into print with, "A Chi-squared Statistical Evaluation of Cola-Drink Taste-Test Identification Among College Students in Lebanon." Friends, with recognition like that, even the renowned Dr. Pepper would not have been misunderstood so long!

Please consider generous contributions to SAG. Join the Society for the Adulation of Grubneledner, and wear your SAG patches proudly!

More seriously, I urge you to form a local component of National SAG. You might wish to appoint an ad hoc task force to perform a feasibility study and determine the targetability of a meaningful quantum jump —into SAG.

This is an idea whose time has come. Like it or not, if you don't do it, the government will do it for you. It is not a question of whether, but of when and how much. Let's run it up the flagpole and see if anyone salutes!

As a famous senator from a far northeastern state said, "The only way to solve our problem is to grab the handle, turn things around, and get moving again!" So SAG along with us, and remember our slogan: "Heads Up—with Grubneledner!"

Val F. Borum, MD, Fort Worth.

communications to TEXAS MEDICINE

Beyond AMA and AMPAC

Dear Sirs:

This is not intended to be a rebuttal to the editorials which praise the AMA and encourage solidarity, but only a call to reexamine our present position with the hope that new realizations will result in a different approach to the problems we face. I am, and will continue to be, an AMA member. That organization must realize, however, that with Medicare we have a new ball game. Prior to Medicare, the game of survival was political in nature but with PL 89-97, new rules entered the game—the rules of law. Prior to Medicare, the civil rights of physicians were not an issue. Politics had been successfully used to keep those civil rights from becoming an issue. But politics lost the Medicare battle and now the legal question of physician civil rights is an issue.

The AMA has recognized a need for an organization (AMPAC) to fight those political battles necessary to regain effective political strength. Why won't it recognize the need for still another organization along the same organizational lines as AMPAC to be the physicians'

standard bearer in their battle to guard civil rights, a function neither within the realm of responsibility nor capacity of the AMA? Such an organization could operate on a very important legal thesis, namely that "the designation MD does not alter one's relationship with the civil statutes of the land. That designation grants no greater nor deprives one any of those civil rights which govern this land," or, phrased in another way, "the physician's legal authority over others is no greater and conversely others' authority over him is no greater." The designation "MD" only tags one with the responsibility of providing medical care and advice with reasonable care. As a corollary to this such an organization could also operate on the thesis that Federal Medicare type programs are contractual relationships as stated repeatedly in PL 89-97—contractual relationships to which the private physician is not a party except on voluntary terms of his choosing.

Such a proposed organization could stop the attrition of the AMA membership because when those members say, "The AMA is not doing anything for me," what they really mean is, "The AMA is not showing me how to stay out of the grasp of the Federal Government," or "The AMA is not preserving my civil rights." They are deserting the AMA for failure to perform where it has neither authority, organizational capacity nor duty to perform.

Socialism does not advance of its own power, but is sucked in a vacuum created when free men retreat by failure to use the system of civil law which was designed for the very purpose of preventing such centralized Federal control. Socialized medicine or political medicine (whatever it's called) cannot go forward except over the corpses of physicians' civil rights, whether those corpses are the result of battle or surrender without a fight.

Yours sincerely,

Ben B. White, MD, Houston.

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Contraindicated: Known hypersensitivity to the drug. Children under 6 months of age. Acute narrow angle glaucoma; may be used in patients with open angle glaucoma who are receiving appropriate therapy.

Warnings: Not of value in psychotic patients. Caution against hazardous occupations requiring complete mental alertness. When used adjunctively in convulsive disorders, possibility of increase in frequency and/or severity of grand mal seizures may require increased dosage of standard anticonvulsant medication; abrupt withdrawal may be associated with temporary increase in frequency and/or severity of seizures. Advise against simultaneous ingestion of alcohol and other CNS depressants. Withdrawal symptoms (similar to those with barbiturates and alcohol) have occurred following abrupt discontinuance (convulsions, tremor, abdominal and muscle cramps, vomiting and sweating). Keep addiction-prone individuals under careful surveillance because of their predisposition to habituation and dependence. In pregnancy, lactation or women of childbearing age, weigh potential benefit against possible hazard.

Precautions: If combined with other psychotropics or anticonvulsants, consider carefully pharmacology of agents employed; drugs such as phenothiazines, narcotics, barbiturates, MAO inhibitors and other antidepressants may potentiate its action. Usual precautions indicated in patients severely depressed, or with latent depression, or with suicidal tendencies. Observe usual precautions in impaired renal or hepatic function. Limit dosage to smallest effective amount in elderly and debilitated to preclude ataxia or oversedation.

Side Effects: Drowsiness, confusion, diplopia, hypotension, changes in libido, nausea, fatigue, depression, dysarthria, jaundice, skin rash, ataxia, constipation, headache, incontinence, changes in salivation, slurred speech, tremor, vertigo, urinary retention, blurred vision. Paradoxical reactions such as acute hyperexcited states, anxiety, hallucinations, increased muscle spasticity, insomnia, rage, sleep disturbances, stimulation have been reported; should these occur, discontinue drug. Isolated reports of neutropenia, jaundice; periodic blood counts and liver function tests advisable during long-term therapy.

Dosage: Individualize for maximum beneficial effect. *Adults:* Tension, anxiety and psychoneurotic states, 2 to 10 mg b.i.d. to q.i.d.; alcoholism, 10 mg t.i.d. or q.i.d. in first 24 hours, then 5 mg t.i.d. or q.i.d. as needed; adjunctively in skeletal muscle spasm, 2 to 10 mg t.i.d. or q.i.d.; adjunctively in convulsive disorders, 2 to 10 mg b.i.d. to q.i.d. *Geriatric or debilitated patients:* 2 to 2½ mg, 1 or 2 times daily initially, increasing as needed and tolerated. (See Precautions.) *Children:* 1 to 2½ mg t.i.d. or q.i.d. initially, increasing as needed and tolerated (not for use under 6 months).

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Malpractice

The growing incidence of medical litigation is an increasingly important fact of life for Texas physicians. While there are undoubtedly some cases of true medical negligence, recent reports indicate that many claims are made against practicing physicians because of inadvertent or careless remarks and practices by the defendant or by his colleagues.

One area which recently has been a fertile one for lawsuits involves proper consent by the patient. The Texas Supreme Court has held that a patient must grant his "informed consent" prior to elective, nonemergency treatment by a physician. "Informed consent" means that the physician must have provided sufficient information or explanation to the patient (or to his parents or guardian) for the person to understand the nature of the proposed procedure and agree to or refuse it.

Where the treatment is elective and the patient is conscious and mentally competent, the *patient* must grant consent; a spouse is not authorized to consent for treatment for the other. Of course, if the procedure involves sterilization of a married patient, or if sterilization reasonably may be expected to result from the procedure, then the patient's spouse also should consent to the procedure.

Medical records may provide the physician's best, and sometimes only, adequate defense, since a claim may be brought years after the date of the alleged negligence. For this reason alone, medical records are of vital importance.

In emergency medical cases, consent is implied and a specific or "informed consent" is not required. However, often the nature of the emergency can be demonstrated only by adequate medical records.

Of course, the physician should avoid admitting error since the law requires no voluntary admission and the physician's statements might be grossly misinterpreted. Prudent physicians do not criticize the work of another doctor since the second doctor seldom knows all circumstances of the first treatment.

If you are confronted with a malpractice claim your professional liability carrier should be contacted *immediately.*

If you are served or contacted by a patient, his representative, or an attorney regarding malpractice, you should make no statement and avoid any act which might be interpreted as an admission of negligence on your part. Innocent statements by physicians, genuinely concerned about the health of their patients, may be interpreted by an attorney or patient as an admission of error in judgment.

Braswell Locker, M.D.

Braswell Locker, MD, President, Texas Medical Association.

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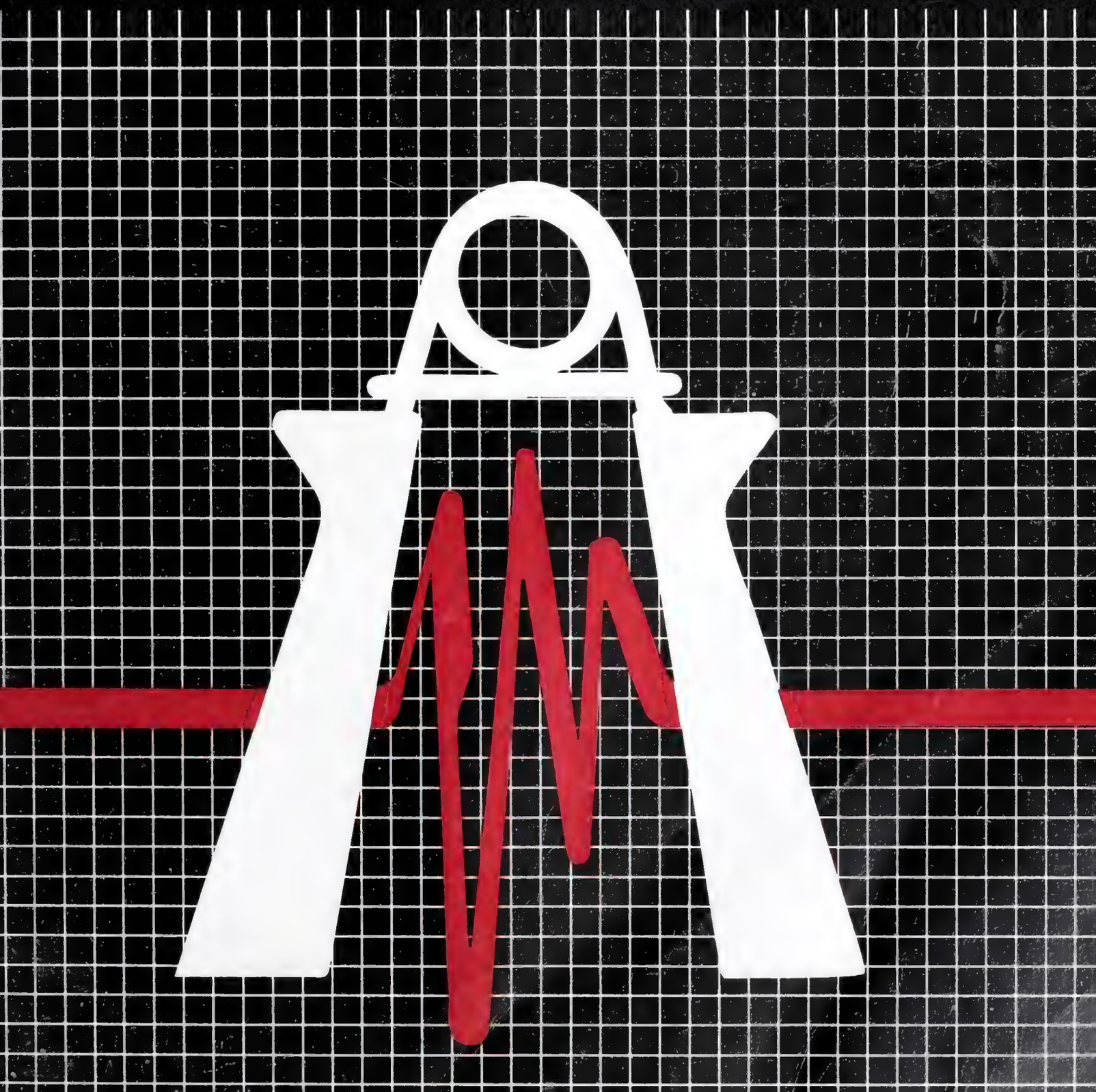

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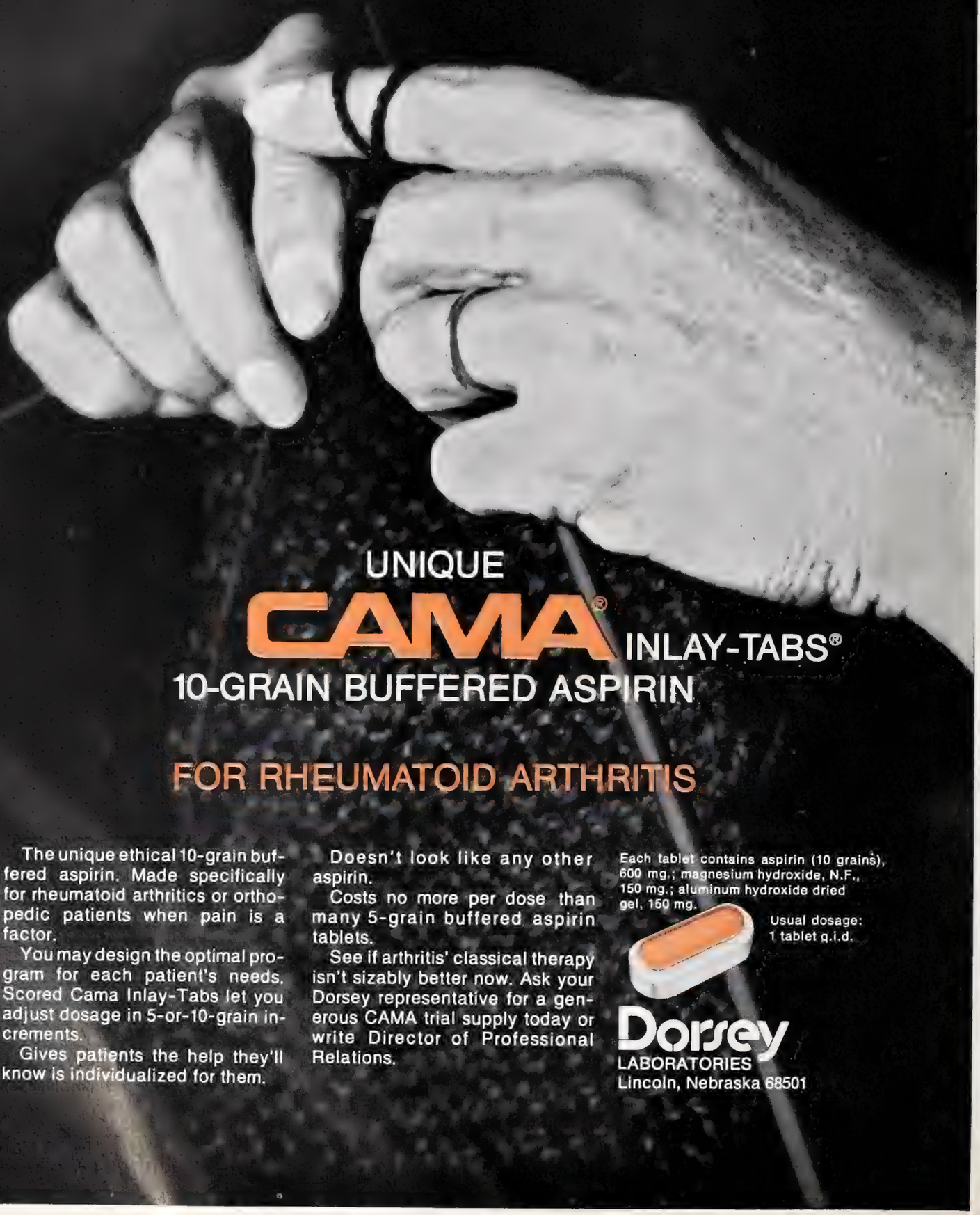

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Texas Medicine
VOL 69 FEBRUARY 1973

Devoted to the interest of the medical profession and public health in Texas

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Subscriptions: $3 per year for members; $6 for nonmembers; $8 for foreign; $5 for libraries, hospitals, and universities; $3 for medical students. Single copy: $1.

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NEWS

House of Delegates endorses implementation of TMF

Meeting in special session in Austin Jan. 20 and 21, 1973, the Texas Medical Association's House of Delegates endorsed the concept, implementation, and development of the Texas Medical Foundation.

Concurrently, the House of Delegates authorized the TMA Board of Trustees to implement and develop the Foundation and delegated interim responsibility to the Board to determine the organization, structure, function, programs, and funding of the Foundation. In addition, the TMA Board of Trustees was authorized to define the relationship of the Texas Medical Foundation to the Texas Medical Association.

In making these decisions, the House reaffirmed and approved the September, 1972, actions of the Association's interim policy-making body, the Executive Board.

The Delegates' decisions followed three hours of open hearings before a Reference Committee, which then made final recommendations to the House. Fourteen members of the 15-member Reference Committee supported the recommendation favoring the development of the Foundation, and one member of the Reference Committee filed a minority report seeking delay on the decision until the regular annual session of the House of Delegates in May.

Dr. Walter A. Brooks of Quanah, chairman of the Reference Committee, noted in his report to the House of Delegates that his Committee wished "to emphasize the fact that the Texas Medical Foundation is designed to function as a corporate entity, thereby opening a new avenue of service to physicians as related to the somewhat limited socioeconomic scope of the Texas Medical Association."

In endorsing the TMA Board of Trustees' actions to date and giving the Board interim responsibility to determine the organization, structure, function, programs, and funding of the Foundation, the House stipulated that authority would not be granted to the Foundation "to contract for individual physicians' services, to deliver medical care, nor to act as a Professional Standards Review Organization." The House also called for the TMA Board of Trustees to appoint a Constitution and Bylaws Committee for the Foundation within two weeks after the special session, charging the Committee

TMA House of Delegates in session at Joe C. Thompson Conference Center.

to report the Foundation bylaws to the House of Delegates' annual session in May. The House asked for the prerogative to vote upon the bylaws by simple majority at that time.

The actions of the House of Delegates followed months of study by the Task Force on Implementation of the Texas Medical Foundation, headed by Dr. Joseph T. Painter, and the Board of Trustees of the Texas Medical Association, headed by Dr. John Smith. In addition, a sounding board meeting was held for county society representatives and officers in December, 1972. Reports of these two groups and the bylaws of the Texas Medical Foundation were considered in depth by the Delegates.

In approving the development of the Foundation, the Delegates defined a medical foundation as "an autonomous corporation sponsored and organized by a medical society with membership open to all licensed physicians who voluntarily apply." They also accepted the statement that the broad purposes of the TMF are "the preservation of the physician-patient relationship; perpetuation of freedom of choice for patient and physician; promotion of distribution of medical and health services to the people of Texas; and protection of the public health."

The purposes also provide for negotiation of contracts, supervision and management of medical service plans, coordination of uniform standards of medical care among member foundations, establishment of fair hearings procedures, and maintenance of information

NEWS

on all programs for medical care.
The House of Delegates noted the need for continuing action now to aid societies in Texas to resist "encroachment by governmental agencies and third parties which are attempting to dominate medical care in their jurisdictions." Upon this basis they voted to implement the Foundation with the understanding that it would always foster and encourage fee-for-service and direct billing.
Complete transactions of the special session of the House of Delegates are now being compiled and will be sent to delegates, alternate delegates and officers of the Association as soon as possible. Articles also will be featured in *Texas Medicine* and *TMA Action*.

Dr. Locker protests Phase III in letter to President Nixon

Dr. Braswell Locker, president of the Texas Medical Association, has sent a letter on behalf of TMA to President Nixon protesting the extension of government economic controls over physicians and the health services industry. In addition, personal letters have gone to Texas Sens. John Tower and Lloyd Bentsen and to Texas' 24 congressmen.
Dr. Locker calls the action "discriminatory against physicians and those who have responsibility for the health care of the people of our State and the country."
In his letter, Dr. Locker notes that when wage-price controls were first imposed 13 months ago, the Texas Medical Association actively cooperated and urged its members to comply. Letters and a sign for posting in physicians' offices were mailed to all members.
The letter also points out that the physicians of Texas and the nation demonstrated that they can keep their fees down through voluntary compliance. From August, 1971, when Phase I began, until November, 1972, physicians' fees rose by 2.7% nation-wide, while the all-services component of the Consumer Price Index rose by 4.3% during the same period. Food went up 4.5%.
In addition, Dr. Locker notes that while physicians' fees rose by only 2.7%, the cost of legal services rose by 14%, yet compulsory economic controls have not been maintained for legal services under Phase III.
During Phase III, Dr. Locker says, physicians' fees will be controlled, yet they will be forced to buy supplies from industries where controls have been lifted. He says this move will affect not only physicians, but some 3 million other people.
Dr. Locker concludes by urging the President to provide immediate relief for the health services industry from mandatory controls under Phase III.

TMA policy on abortion

In light of the recent Supreme Court decision on abortion, and in response to the inquiries of many physicians, the Texas Medical Association reminds members that it does have an established policy on this issue.
The present guidelines are:
Abortion is a medical procedure which should be performed only by a duly licensed physician and surgeon in a hospital acting only in conformance with standards of good medical practice, and after proper medical consultation.
No physician or other professional personnel shall be compelled to perform any act which violates his good medical judgement or moral convictions.
The solicitation of patients is unethical, whether it be for abortion or for any other medical service.
TMA President Braswell Locker says the Association is continuing study of the abortion issue in the wake of the ruling. Meanwhile, he says that the present guidelines should be followed.

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NEWS

Beddingfield, Ainsworth preview '73 health care proposals

1973 is shaping up to be a crucial year for medicine on the legislative front. With the war in Vietnam rapidly becoming a dead issue, and Congress in a cost-cutting mood, physicians may expect to see health care issues coming to the forefront, especially on the national level.

These were some of the observations made by two guest speakers at the 1973 TMA Legislative Seminar held Jan. 20 in Austin. Dr. Edgar T. Beddingfield, Jr., of Wilson, N.C., a member of AMA's Council on Medical Legislation, and Dr. Joseph T. Ainsworth of Houston, Dr. Beddingfield's counterpart on the state level, explained some of the issues to assembled TMA members, and gave seminar participants an idea of what to expect in 1973.

Dr. Beddingfield explained how the AMA Council on Legislation works, and noted that the Association has only four full-time lobbyists in Washington to carry on what is sometimes referred to in the press as a "massive lobbying effort."

PSRO Report

In reviewing the actions of the 92nd Congress, Dr. Beddingfield said the passage of H.R. 1, the Social Security Amendments of 1972, was the most important health care legislation to appear in some time. Specifically, he called the Professional Standards Review Organization section of the law "the most important health care law since Medicare," and said that PSROs will probably have an impact equal to Medicare on the practice of Medicine.

Dr. Beddingfield conceded that the passage of the PSRO provision was "perhaps a failure of the AMA legislative effort," but he attributed its passage to widespread sentiment among legislators for cost control.

Since PSROs have been approved, Dr. Beddingfield said the AMA, in keeping with a recommendation from the House of Delegates, is attempting to take a leadership role in the formation of PSRO policies and regulations.

Dr. Beddingfield

The AMA Board of Trustees has appointed a 23-man committee to study the problem. Presently, he said, the committee is awaiting the results of Nixon administration re-shuffling and the publication of PSRO regulations by HEW. Dr. Beddingfield said that physicians might expect to see first draft regulations for the organizations some time in June.

In the meantime, he noted that many county medical societies are now applying to be reorganized as PSROs. He said the AMA feels these applications are premature and advised county medical societies to hold further action until the AMA committee can determine the direction which PSRO regulations will take.

What's Ahead

In the meantime, Dr. Beddingfield said that physicians may expect a flurry of Congressional activity in the health care field. Several bills have already been introduced. Dr. Beddingfield said some of the most important ones include:

H.R. 1—This is the new H.R. 1, introduced by Rep. Al Ullman (D-Ore.).

This bill incorporates the American Hospital Association's national health insurance proposal, providing for health care at a cost related to the patient's income.

H.R. 22/S. 3—Senator Kennedy's Health Security Act of 1973. Dr. Beddingfield said S.3 is essentially the same bill as Sen. Kennedy introduced in the 92nd Congress, with an extension of benefits to provide dental care for children. In addition, he said, the bill encourages HMOs and allows medical foundations prescription drug benefits. S. 3 also includes provisions for home health care and one section which would allow the aged to receive homemaker services, laundry services and "meals on wheels."
Dr. Beddingfield says S. 3 would be financed through a payroll tax amounting to 1% of the employee's paycheck and a 3.5% contribution by the employer. If the employer is presently contributing more than 3.5% to a health insurance plan, Dr. Beddingfield says the Kennedy proposal would require him to maintain contributions at that level.

H.R. 2222/S. 444—Sponsored in the House by Rep. Joel T. Broyhill of Virginia and in the Senate by Sens. Clifford P. Hansen (R-Wyo.) and Vance Hartke (D-Ind.), this is the AMA Medicredit bill. The bill was introduced on Jan. 19 with a total of 126 Congressional sponsors. Medicredit would protect the insured against both ordinary and catastrophic illnesses and would provide dental services on a voluntary basis.

Other bills affecting the practice of medicine which have been introduced include H.R. 74, introduced by Rep. Paul G. Rogers (D-Fla.), which would provide for emergency health services. Dr. Beddingfield says the AMA is planning to introduce a proposal of its own on this issue. Rep. Rogers has also introduced H.R. 1058, a proposal creating a cabinet level Department of Health. Dr. Beddingfield says the AMA has endorsed the concept but plans to introduce its own bill in this area.

S. 14/H.R. 51, sponsored in the Senate by Sen. Kennedy and in the House by Reps. Roy and Rogers (hence called the "Roy Rogers bill") is the main HMO legislation for 1973. The Senate bill is essentially the same as the bill Sen. Kennedy sponsored in the 92nd Congress, while the House bill sharply circumscribes the number of HMOs which would be allowed.
While the AMA might favor the Roy Rogers bill, Dr. Beddingfield said the Association is not endorsing either bill, fearing changes which might be made in the conference committee. Instead, the AMA is maintaining its position that existing HMOs must be further evaluated before new ones are created on a large scale.
Dr. Beddingfield also noted that three other bills have been introduced. They are S.7, a vocational rehabilitation bill which was vetoed by President Nixon in the last session of Congress; S. 174, providing outpatient drugs under Medicare; and H.R. 7508, Title 5, extending maternal and child health benefits.

Texas Legislative Issues

Dr. Ainsworth, chairman of TMA's Council on Medical Jurisprudence, noted three issues before the 63rd Texas Legislature which will be of interest to the medical profession.
Dr. Ainsworth said there are indications that certificate of need legislation will be re-introduced in the 63rd Legislature. During the last legislative session, H.B. 627 would have divested the State Department of Health of the authority to license new hospital facilities, creating instead a health facilities council made up principally of hospital administrators. No new medical facilities would have been permit-

NEWS

ted without the establishment of a certificate of need.

Dr. Ainsworth says TMA feels that a certificate of need should not be required for privately-financed medical facilities which will not accept Medicare and Medicaid funds, and that the federal government already regulates facilities constructed with public funds. Therefore, it is felt that broad certificate of need legislation is not necessary on the state level.

The Texas Pharmaceutical Association is supporting the passage of drug substitution laws which would enable the pharmacists to substitute generically "equivalent drugs" of a brand different from the one prescribed by a physician. Dr. Ainsworth says the drug substitution effort is nationwide, so far successful only in Kentucky.

Dr. Ainsworth reported that the TMA Council on Medical Jurisprudence has met with the TPA and others in open discussion. The pharmacists have complained that they are forced to stock several brands of the same drug, thus raising costs.

TMA maintains, says Dr. Ainsworth, that physicians are the only ones who can decide whether different drugs are therapeutically equal, and that the MD would be responsible for the effects of any drug prescribed. In addition, it is held that the passage of drug substitution laws would lead to second-class prescribing and a lower quality of health care.

A third issue which appears likely to come up before the 63rd Legislature is the extension of insurance coverage for chiropractic services. Dr. Ainsworth noted that a bill was introduced in the 62nd Legislature which would have required that all health insurance policies cover chiropractic services as well as medical and osteopathic services. TMA opposed that bill on the basis that it would lead to increased costs and a lower quality of health care and the bill did not reach the Senate floor.

Dr. Ainsworth said the TMA Council feels that if legislators are properly informed about the implications of such a proposal, the bill may be defeated. The Council has mailed copies of "The Case Against Chiropractic" to all legislators and letters have also gone out stating the official TMA position on chiropractic.

Both Dr. Ainsworth and Dr. Beddingfield reminded physicians that they must keep informed about legislative issues and urged that every physician contact his representative or senator to state his position on the many health care issues which will be on the 1973 legislative scene.

9 Texas physicians serve on AMA councils, committees

Nine Texas physicians have been reappointed to councils and committees of the American Medical Association by the AMA Board of Trustees.

Those reappointed, and their tenures in office are: Dr. James H. Sterner, Houston, Council on Environmental, Occupational and Public Health (1973); Dr. Milford O. Rouse, Dallas, Council on Foods and Nutrition (1977); Dr. Max E. Johnson, San Antonio, Council on Health Manpower (ex-officio); Dr. Harvey Renger, Hallettsville, Council on Legislation (1973); and Dr. Russell L. Deter, El Paso, Committee on Alcoholism and Drug Dependence (1975).

Also serving are Dr. Edwin W. Schmidt, Pecos, Council on Rural Health (1978); Dr. Nicholas C. Hightower, Temple, Council on Scientific Assembly (1978); Dr. Jack P. Abbott, Houston, Committee on Transfusion and Transplantation (1975); and Dr. William O. Russell, Houston, Advisory Committee on Cancer (1976).

Dr. John S. Chapman, Dallas, has retired from the Council on Environmental, Occupational and Public Health.

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NEWS

Managua General Hospital, the country's largest, was destroyed during the first few minutes of the earthquake. The third floor of the reinforced concrete structure is resting on the second level. Authorities said bodies were still inside the third floor because of lack of manpower and equipment.

HCMS physicians spoke with Anastasio Somoza III, the son of the provisional leader of the country, who was in charge of the distribution of supplies and relief. Left to right are Dr. Cecil Christensen, Dr. George G. Alexander, Somoza, Dr. Sidney Schnur, Dr. Jerry C. Marcontell and Dr. John Milligan.

HCMS airlifts supplies to quake-stricken Nicaraguans

The hand-lettered sign on the van parked at the Managua, Nicaragua, Municipal Airport read, "Thank you, Texas."

It was there to meet six Houston physicians and an executive from the Harris County Medical Society who had responded to a call for help from the earthquake-stricken people of Nicaragua.

The Harris County effort was mounted Dec. 27 after a telephone call from the Nicaraguan consulate in Houston who described the desperate need for medical supplies. A shortwave radio conversation with a physician in Granada, a community south of Managua, revealed a special need for orthopedic supplies.

"He told us there are at least 1,500 orthopedic cases waiting for immediate attention and they are in dire need of medical supplies," Dr. George Alexander, 1973 president-elect of HCMS, told a *Houston Post* reporter before the group left for Managua.

The medical society responded to the calls for help immediately, ultimately gathering 12,000 pounds of medical equipment (mostly orthopedic supplies), and 6,000 pounds of food donated by the Pasadena Rotary Club. A C-130 cargo plane was provided by the US Air Force Reserve.

The Houston medical community was able to provide the needed supplies within 12 hours. At least 15 hospitals contributed orthopedic equipment, and representatives of drug supply firms and many of Harris County's 1,350 pharmacists gave necessary drugs. Dr. Robert Donald, chairman of the HCMS Emergency Medical Care Committee, coordinated the efforts of the community.

The flight left Houston at 8 a.m., Dec. 29 with Houston physicians Sidney Schnur, 1972 HCMS president, John Milligan, Cecil Christensen, Felix Davila, Jerry C. Marcontell, John D. Reeve and Dr. Alexander aboard. Also making the trip was James Hickox, assistant executive secretary of the medical society.

The cargo ship landed at Managua, where the supplies were loaded on trucks for transhipment to the Granada hospital for use there or for redistribution to other areas.

Dr. Alexander reports that small hos-

pitals like the one at Granada are handling the brunt of the injury cases, since Managua's 1,000-bed hospital was destroyed.

"Downtown Managua is all rubble," said Dr. Alexander, "And Granada is just packed with refugees. American assistance is very evident everywhere. It makes us very proud to see the way our federal government and private citizens have responded."

Dr. Alexander reported that the immediate medical concerns of the Nicaraguans are sanitation, food, and public health problems, with care of the chronically-injured a long range concern.

"These people," he said, "cannot live this way without outbreaks of disease. They have particularly stressed to us how much they need high protein, non-perishable foods—especially beans, rice, and corn."

The Houston physicians met with Gen. Anastasio Somoza, former president of Nicaragua, and now leader of the National Guard and provisional head of the country. Gen. Somoza thanked the Houstonians profusely for their assistance.

Franklin 'Ace' Pickens joins TMA legal staff

Former Texas State Representative Franklin "Ace" Pickens of Odessa has joined the office of the Texas Medical Association's general counsel. The announcement was made in Austin by TMA General Counsel Philip R. Overton, who said Mr. Pickens' title will be "assistant general counsel."

Mr. Pickens was a member of the Texas House of Representatives from Odessa, Ector County, from 1964 until 1973. He has also served as Washington counsel for 24 railroads which operate in Texas, and is an attorney licensed to practice before the US and Texas Supreme Courts.

Born in Borger, Texas, Mr. Pickens' family moved to Odessa in 1948. He attended local schools and received his BBA degree in 1958 from the University of Texas at Austin. In 1962, he received the JD degree from The University of Texas School of Law.

The new TMA assistant general counsel has had extensive legislative experience in 4 Texas legislative sessions. He has served as chairman and vice chairman of the West Texas Delegation in the House of Representatives, as chairman of the House Standing Committee on Insurance, and as a member of numerous House committees including Oil and Gas, Higher Education, Public Health, Motor Transportation, Judiciary, Banks and Banking, Engrossed Bills, and Appropriations.

In addition, he has authored numerous bills which have passed both houses or have become law, including a bill creating The University of Texas of the Permian Basin.

Mr. Pickens holds many offices and honors. He is listed in *Who's Who in American Politics, Who Is Who In Texas Today, Who's Who in the South and Southwest, Community Leaders of America, Personalities of the South,* and *The National Register of Prominent Americans.*

He is presently a member of the State Junior Bar of Texas, State Bar of Texas, and is a charter member of the National Society of State Legislators.

Mr.Pickens' wife, Diana Barnard Pickens, is a former teacher in the Odessa Public School System.

Franklin "Ace" Pickens

TMA membership rolls swell by 421 in 1972

The Texas Medical Association gained 421 members in 1972—the largest gain in Association history except for 1946 when 426 physicians joined after World War II. Total membership at the end of 1972 was 11,553, said C. Lincoln Williston, TMA executive secretary.

This makes the third strong membership year in a row for the Association, representing an increase of 1,147. In

NEWS

the past, the Association has been growing at the rate of about 1,000 for every five years, said Williston. On the basis of the present growth pattern, TMA membership should reach 14,000 by 1980.

Increases were recorded for all member categories except leave-of-absence status. The most significant increase, according to Williston, was in regular membership, up 347 over a year ago. TMA now has 10,603 regular members.

1972 membership by types is: regular, 10,603; resident, 321; honorary, 254; inactive, 207; military, 89; leave-of-absence, 75; emeritus, 4.

Pilot Medicaid screening project to begin this month in Austin

State Commissioner of Health Dr. J. E. Peavy has told TMA's Council on Tax-Financed Health Care Programs that a pilot program for physical screening of Texas' 105,000 children under age six under Medicaid will begin in Austin this month.

Speaking before the Council at its meeting in Austin in January, Dr. Peavy said history and physical examination forms are being worked out, and that the State Department of Health is working with local health departments to set up local screening teams.

The Federal government, under regulations passed in February, 1972, for states participating in Medicaid, Title XIX of the Social Security Act, is requiring early and periodic screening and diagnosis of all children under 21 whose families are covered by Medicaid. Follow-up treatment, if indicated by the screening, will be provided by practicing physicians. The program must be completely operative by July 1, 1973, Dr. Peavy said.

The State Health and Welfare Departments have been working closely with the TMA and TDA for 10 months to set up procedures for what has been called "the single largest medical operation in Texas history." Dr. Peavy said that since surveys have shown that 92% of the children of poor families need dental treatment, the children will be sent directly to dentists. Gross physical screenings will be conducted, and only children who need treatment will be referred to physicians by the county welfare authorities.

After the results of the Austin pilot program have been evaluated, Dr. Peavy says mass screening of children under six will begin with work concentrated on the urban areas first. Mobile units will be used to take teams into rural areas. It is hoped that screening of children up to 21 years of age can begin by July 1.

TMA's Council on Tax-Financed Health Care Programs, at the direction of the Association's Executive Board, has worked out specific recommendations concerning the physical examination forms and procedures for screening.

"Through screening and early diagnosis and treatment," Dr. Peavy said, "both programs [dental and medical] should have a strong impact on the present and future health of thousands of young Texans."

Executive Board grants increase in TMA-MRT fee schedule

TMA's Executive Board has approved a fee increase for members of the TMA Members' Retirement Trust.

Recommendations for the increase were made by the Mercantile National Bank at Dallas and the Council on Medical Service and Insurance at its January meeting in Austin. The recommendation for the increase was based on increased operating costs.

Recommended increases, which are now effective, include a raise of $25 for the minimum annual group fee (from $50 to $75); a charge of $10 for all contributions in excess of two per year; and a charge of $1 per person for more than one change annually in the contribution rate.

Advertisement

"The history of science, and in particular the history of medicine . . . is . . . the history of man's reactions to the truth, the history of the gradual revelation of truth, the history of the gradual liberation of our minds from darkness and prejudice."

– George Sarton, from "The History of Medicine Versus the History of Art"

Are combination drug products useful in treatment involving concomitant use of two or more drugs?

Opinion

Results of a questionnaire to 7,000 physicians:

62.9%
Believe combination drug products are useful.

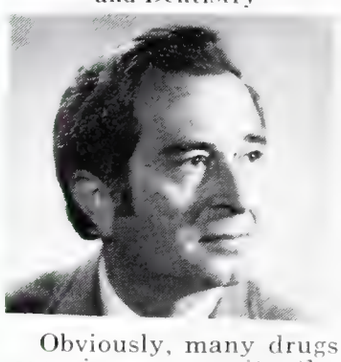
13.8%
Do not believe combination drug products are useful.

Are combination drug products useful in treatment involving concomitant use of two or more drugs?

Opinion & Dialogue

Doctor of Medicine

Louis Lasagna, M.D.
Professor and Chairman
Department of
Pharmacology & Toxicology
University of Rochester
School of Medicine
and Dentistry



Obviously, many drugs are given concomitantly. Whether it makes sense to combine medications in one preparation, be it capsule, tablet, or liquid, is a question that can be answered only by examining the advantages and disadvantages in the individual case.

Among the advantages is, first of all, convenience. The more medications that are taken concurrently and the more complicated the directions, the less likely the patient is to take medications accurately. From the standpoint of convenience and accuracy, and economy as well, you can make an important case for putting medications together in one preparation, as long as they are compatible.

By the same token, when you prescribe a properly tested and rational combination, you should have less worry about pharmaceutical or pharmacological compatibility – and about reasonable dosage ratios as well. Compatibility of the formulation should be demonstrated in the laboratory and clinic before the product is available for prescription—which is more than can usually be said for the physician's own spontaneous creations. And, the dosage ratios employed in rational precompounded combinations are designed to meet the needs of substantial numbers of "typical" patients.

There is no doubt that many "atypical" patients are to be found, and for them the prefabricated combination must be rejected. But that hardly argues for eliminating rational combinations from the market. Think, for example, of the problems that would arise if the components of widely accepted combinations, like the oral contraceptives and the diuretic-antihypertensives, always had to be prescribed, purchased and ingested separately.

One disadvantage that comes to mind is some doctors' unawareness of the ingredients a given combination contains. For example, a doctor might know that a patient is allergic to aspirin but forget that a certain analgesic mixture, which he knows only by its trade name, contains aspirin. His prescription, then, causes considerable discomfort, to say the least. This problem is a function of physician education, rather than of combination therapy as such. Improving doctors' knowledge about all medicaments they prescribe is a problem that deserves tackling on its own.

Another accusation leveled at combination drugs is that they encourage sloppiness of diagnosis and treatment. In many cases, however, a combination may prove to be the most effective choice. A good example of the usefulness of combinations appears in a recent article in the *Journal of Chronic Diseases* on the efficacy and side effects of an antihypertensive containing three ingredients, in which the track records of the combination drug and the individual ingredients were compared. Interestingly enough, whether the drugs were given individually or together, incidence and severity of side effects were the same. But blood pressure control was invariably better when the drugs were taken in one combination tablet than when they were taken separately (in "titratable" dosage) or in two or three different tablets.

Deciding which combinations constitute rational therapy obviously leads to a discussion of who is to determine which should be used and which should not. Realistically, I think combinations should be evaluated somewhat differently if they are old and established or new and untried.

In today's regulatory atmosphere, there is no possibility of a new combination being put on the market without a substantial amount of acceptable evidence in the form of controlled trials that show it to be safe and efficacious. On the other hand, I believe a different set of standards should apply to combination preparations that have been around for a long time. In other words, physician acceptance over a long period should be given some weight as evidence of the efficacy and safety of these drugs.

The FDA, however, does not seem to share this attitude. It often requires, for these older products, controlled trials that will monopolize the time of already overtired investigators and cost a great deal of money. I wish we could agree on a "grandfather clause" approach to preparations that have been in use for a number of years and that have an apparently satisfactory track record.

For example, I think some of the antibiotic combinations that were taken off the market by the FDA performed quite well. I am thinking particularly of penicillin - streptomycin combinations that patients—especially surgical patients—were given in one injection. This made for less discomfort for the patient, less demand on nurses' time, and fewer opportunities for dosage errors. To take such a preparation off the market doesn't seem to be good medicine, unless actual usage showed a great deal of harm from the injections (rather than the proper use) of the combination.

The point that should be emphasized is that there are both rational and irrational combinations. The real question is, who should determine which is which? Obviously, the FDA must play a major role in making this determination. In fact, I don't think it can avoid taking the ultimate responsibility, but it should enlist the help of outside physicians and experts in assessing the evidence and in making the ultimate decision.

Maker of Medicine

W. Clarke Wescoe, M.D.
President
Winthrop Laboratories

If two medications are used effectively to treat a certain condition, and it is known that they are compatible, it clearly is useful and convenient to provide them in one dosage form. It would make no sense, in fact it would be pedantic, to insist they always be prescribed separately. To avoid the appearance of pedantry, the "expert" decries the combination because it is a fixed dosage form. When the "expert" invokes the concept of fixed dosage form he obscures the fact that single-ingredient pharmaceutical preparations are also fixed dosage forms. By a singular semantic exercise he implies a pejorative meaning to the term "fixed dose" only when he uses it with respect to combinations. What is ignored is the simple fact that only in the rarest of circumstances does any physician attempt to titrate an exact therapeutic response in his patient. It is quite possible that some aches and pains will respond to 500 mg. of aspirin yet that fact does not militate against the *usual* dose being 650 mg.

The other semantic ploy often called into play is to describe a combination product as rational or irrational.

Take antibiotic mixtures, the source of much of the criticism generated against combinations generally. Obviously, no one should be exposed willy-nilly to the potential side effects of two or three antibiotics when only one is needed. At the same time there are cases where it is prudent to prescribe more than one. The clinician is the judge in these circumstances, as he should be.

There is no clear definition of the word rational. Most persons, I suppose, would find it synonymous with reasonable, but in many circumstances it may best be defined as the opinion of those in power at the moment.

Other factors govern combination therapy, not the least of which has been its broad use by practicing physicians anxious to achieve convenience in prescribing, to reduce medication error, and to save money for their patients. Combinations clearly have met the test on all three counts.

I have been impressed by studies showing that the rate of error climbs markedly with the number of medications to be taken, even with sophisticated patients. When medically justified, therefore, this factor alone supports the logic of combination therapy.

The cost argument for combinations appears to be irrefutable. In 1971, R. A. Gosselin studied the 71 combination products (excluding oral contraceptives) among the 200 most prescribed drugs. The study found that if all 71 products were discontinued, and if each ingredient in these combinations were prescribed separately, the price of medicines to patients would jump by $443.2 million on a national basis! At a time when the cost of medical care is under so much fire, it would be nonsensical to boost costs without clearly irrefutable medical reasons.

The part played by government on this question, of course, is fundamental. The FDA should play a role in determining which combinations are reasonable. That role, as defined by law and regulation, is to ensure that any medication on the market is safe and effective in line with its label claims. Certainly combinations are entitled to as much consideration as single entities—neither more nor less. So long as the addition of one drug to another does not make either less safe, or less effective, so long as they are compatible in a formulation, we have a reasonable product. It makes no sense to recommend the use of two products for certain conditions and to deny their being combined in a single form. An unhappy side effect of the problem concerns the efficacy panel discussions of many products submitted for review. The term "effective, but" has been freely interpreted to mean "ineffective" in toto, regardless of the merit of the individual drugs. This interpretation has placed numerous useful combination products in needless jeopardy.

In reading the actual reports of the review panels, it seems clear that some of the ratings were based less on scientific research and clinical observation than on the "informed" opinions of the panelists. These "informed" opinions were accepted at face value, while the "informed" opinions of others who had used the products were rejected. All of this put combination products into a sort of scientific never-never land.

It should be kept in mind by all, government as well as others involved in our health care system, that advances in therapy are seldom made in leaps and bounds but rather by small painstaking steps—and that some of these steps have resulted from research in combination drugs as well as with single entities. Given the near-infinite biologic variation in patient response, this is hardly surprising to clinicians. It should not be to regulatory agencies either.

In the end, the practicing physician is in the best position to decide if a particular combination makes sense. Such a decision should not be made exclusively by those whose responsibility for continuing clinical care is limited. Clinicians are the best judges of efficacy because the ultimate proof of any product's effectiveness is acceptance by physicians who have observed its actions in patients over time. The corollary statement may be made about over-the-counter medicines, which would not long survive if they failed to afford the relief the user anticipates. That the antihistamine in a "cold" remedy may not *always* be necessary is no reason to proscribe the combination generally.

Opinion & Dialogue

What is your opinion, doctor?
We would welcome your comments.

The Pharmaceutical Manufacturers Association
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MINOCIN® made the difference in just eight days.*

Clinical Data:
Patient: 47-year-old male.
Diagnosis: Severe pyoderma, left hand.
Culture: *Staphylococcus aureus, coagulase* positive and sensitive to MINOCIN.
Temperature: 102° F
Therapy: MINOCIN Minocycline HCl Capsules, 100 mg: 200 mg *stat,* 100 mg every 12 hours. Medication began 9/7/71. By fourth day, temperature was normal and pustular lesions considerably improved. Last dose taken 9/14/71.
Concomitant therapy: None.†

Semisynthetic
MINOCIN®
MINOCYCLINE HCl
Capsules, 100 mg: 2 *stat,* 1 q 12 h.

Indications: For the treatment of susceptible infections; *e.g., E. coli, D. pneumoniae.* For full list of approved indications consult labeling.
Contraindications: Hypersensitivity to any tetracycline.
Warnings: The use of tetracyclines during tooth development (last half of pregnancy, infancy and childhood to the age of 8 years) may cause permanent discoloration of the teeth (yellow-gray-brown). This is more common during long-term use but has been observed following repeated short-term courses. Enamel hypoplasia has also been reported. Tetracyclines, therefore, should not be used in this age group unless other drugs are not likely to be effective or are contraindicated. In renal impairment, usual doses may lead to excessive accumulation and liver toxicity. Under such conditions, use lower total doses, and, in prolonged therapy, determine serum levels. Photosensitivity manifested by an exaggerated sunburn reaction has also been observed in some individuals taking tetracyclines. Advise patients apt to be exposed to direct sunlight or ultraviolet light that such reaction can occur, and discontinue treatment at first evidence of skin erythema. Studies to date indicate that photosensitivity does not occur with MINOCIN Minocycline HCl. In patients with significantly impaired renal function, the antianabolic action of tetracycline may cause an increase in BUN, leading to azotemia, hyperphosphatemia, and acidosis. CNS side effects (lightheadedness, dizziness, vertigo) have been reported, may disappear during therapy, and always disappear rapidly when drug is discontinued. Caution patients who experience these symptoms about driving vehicles or using hazardous machinery while taking this drug. *Pregnancy:* In animal studies, tetracyclines cross the placenta, are found in fetal tissues, and can have toxic effects on the developing fetus (often related to retardation of skeletal development). Embryotoxicity has been noted in animals treated early in pregnancy. Safety of use during human pregnancy has not been established. *Newborns, infants and children:* All tetracyclines form a stable calcium complex in any bone-forming tissue. Prematures, given oral doses of 25 mg./kg. every 6 hours, demonstrated a decrease in fibula growth rate, reversible when drug was discontinued. Tetracyclines are present in the milk of lactating women who are taking a drug of this class.

Precautions: Use may result in overgrowth of nonsusceptible organisms, including fungi. If superinfection occurs, institute appropriate therapy. In venereal diseases when coexistent syphilis is suspected, darkfield examination should be done before treatment is started and blood serology repeated monthly for at least four months. Because tetracyclines have been shown to depress plasma prothrombin activity, patients on anticoagulant therapy may require downward adjustment of such dosage. Test for organ system dysfunction (*e.g.,* renal, hepatic and hemopoietic) in long-term use. Treat all Group A beta hemolytic streptococcal infections for at least 10 days. Avoid giving tetracycline in conjunction with penicillin.

Adverse Reaction: GI: (with both oral and parenteral use): anorexia, nausea, vomiting, diarrhea, glossitis, dysphagia, enterocolitis, inflammatory lesions (with monilial overgrowth) in anogenital region. *Skin:* maculopapular and erythematous rashes. Exfoliative dermatitis (uncommon). Photosensitivity is discussed above ("Warnings"). *Renal toxicity:* rise in BUN, dose-related (see "Warnings"). *Hypersensitivity reactions:* urticaria, angioneurotic edema, anaphylaxis, anaphylactoid purpura, pericarditis, exacerbation of systemic lupus erythematosus. In young infants, bulging fontanels have been reported following full therapeutic dosage, disappearing rapidly when drug was discontinued. *Blood:* hemolytic anemia, thrombocytopenia, neutropenia, eosinophilia. *CNS:* (see "Warnings.") When given in high doses, tetracyclines may produce brown-black microscopic discoloration of thyroid glands; no abnormalities of thyroid function studies are known to occur.

NOTE: Concomitant therapy: Antacids containing aluminum, calcium, or magnesium impair absorption; do not give to patients taking oral minocycline. Studies to date indicate that absorption of MINOCIN is not notably influenced by foods and dairy products.

***Indicated in infections due to susceptible organisms. Culture and sensitivity testing recommended. Tetracylines are not the drugs of choice in the treatment of any staphylococcal infection.**

†Case Report, Clinical Investigation Department, Lederle Laboratories.

Lederle LEDERLE LABORATORIES, A Division of American Cyanamid Company, Pearl River, New York 10965 12-20 436-2

Council recommends changes in Association Constitution

TMA's Council on Constitution and Bylaws has recommended three changes in the Association's Constitution, all of which were brought before the House of Delegates in 1972 and which may be acted upon at the 1973 Annual Session.

The proposed changes deal with medical student membership in TMA; a change in the name of the Council on Medical Jurisprudence; and the inclusion of the immediate past president as an officer of the Association. The proposed amendments are:

Amend Article II, Section 3, page 5 by adding a sentence after ". . . Resident membership": "Full-time students who are pursuing a course of study in a medical school in Texas approved by the Texas States Board of Medical Examiners leading to the degree of Doctor of Medicine (and/or Doctor of Osteopathy) shall be eligible for student membership in the Association."

In addition, a minor Bylaw change will accompany this amendment, as it will be necessary to add "(8) Student" to Chapter I, Section 2, page 8.

The second recommendation relates to including the Immediate Past President as an officer of TMA: Amend Article III, Section 1, page 5 by inserting "an Immediate Past President" after "Vice-President" on line 2, making section 1 read:

"Section 1 . . . The officers of this Association shall be a President, a President-Elect, a Vice-President, an Immediate Past President, a Secretary, a Treasurer, seven Trustees, a Councilor for each councilor district, a Speaker and a Vice-Speaker of the House of Delegates."

The duties of the Immediate Past President would be listed in the Bylaws, creating a new Section 5, Chapter II, page 8: "Section 5 . . . The Immediate Past President shall be ex officio a member of the House of Delegates and of the Executive Board and shall perform such duties as the President may request."

Sections 5 through 9 will then be renumbered Sections 6 through 10, Chapter II, page 8.

Changing the name of the Council on Medical Jurisprudence also requires a Constitutional change.

It is:

Amend Article VII, Section 1, (8) page 6 to read: "(8) the members of the Council on Legislation and the several chairmen of the other respective councils."

In addition, this change would require amendments in the Bylaws, the Index and the Model Constitution for County Medical Societies to make similar changes: Whenever the term, "Council on Medical Jurisprudence" appears, substitute the words "Council on Legislation."

TMA to publish legislative bulletin

The Council on Medical Jurisprudence of the Texas Medical Association agreed at its meeting Jan. 20 to direct the legal staff of the Association to make arrangements to publish a newsletter on proposed legislation of interest to the physicians of TMA.

Tentative plans call for publication of the *TMA Legislative Bulletin* to begin during the next month, to be issued as matters of interest come before the Legislature. The newsletter, with the same format as *TMA Action*, will be published under the supervision and guidance of TMA General Counsel Philip Overton and his staff.

Subscribers may write for index

Texas Medicine subscribers who wish to order the index to the 1972 volume (Vol. 68) of the journal may address their requests to *Texas Medicine*, Texas Medical Association, 1801 North Lamar Boulevard, Austin, Texas 78701.

NEWS

Hoffman, Page head speaker list for Dallas Annual Session

AMA President Charles A. "Carl" Hoffman and cardiologist Irvine H. Page, editor of *Modern Medicine*, will head a list of 46 distinguished guest speakers at the 1973 TMA Annual Session May 3-6 in Dallas.

Dr. Hoffman, Huntington, W. Va. urologist, will speak at the general meeting luncheon at 12:30 p.m. Friday, May 4. Elected president of the American Medical Association last July, Dr. Hoffman's principal interest has been in making an objective study of health care systems in countries where political, economic, and social conditions differ from those in the United States. In addition, he has served as a presidential appointee to the HEW Commission on Medical Malpractice.

Dr. Page, a distinguished researcher and cardiologist, will speak at Saturday's general meeting luncheon on the topic, "Threats to Medicine." Dr. Page, 1958 recipient of the famed Albert Lasker Award, is the author of several books on cardiovascular disease. He holds a long list of offices and honors as well as membership in several national and international professional organizations.

Welfare Dept. reinstates benefits for 19,000 Medicaid recipients

The Texas Medical Assistance Program of the State Department of Public Welfare has reinstated Medicare Benefits to approximately 19,000 welfare recipients who were decertified in September. The reinstatement of benefits is retroactive to Oct. 1, 1972.

The decertification was a result of a 20% increase in Social Security benefits which became effective in September. The reinstatement of benefits was made possible by the passage of the Social Security Amendments of 1972. The Texas Department of Public Welfare has sent each of the recipients a notice explaining his reinstatement.

Since some claims for Medicare deductibles or coinsurance have been denied because of the decertification, the department is asking all physicians who have had October or November claims denied for this reason to contact the Medicaid department. The 90-day filing deadline has been extended in these cases, the department says.

'London flu' not prevalent in Texas

Texas may not be greatly affected this winter by the English strain of A-influenzae, or "London flu," according to Dr. M. S. Dickerson, chief of the Communicable Disease Service Section of the Texas State Department of Health.

Dr. Dickerson says that although there has been a slight rise in the number of influenza-like illnesses reported to his section, actual virus isolations and serotypes for the A-type virus have been few. A total of 6 virus isolations had been made by the third week in January and one serological confirmation was reported. The other specimens were in the process of being serotyped, said Dr. Dickerson.

Four of those virus isolations came from Austin—3 from the Student Health Center at the University of Texas, and one from a private Austin physician. The last confirmed case came from Fort Worth.

Dr. Dickerson noted a slight rise in influenza-type illnesses, although, he said, the incidence doesn't compare with last year's figures for the same period. During the first week in January, 4,105 cases were reported, rising to 6,576 in the second week, and 10,110 for the third week, the latest figure which was available. Dr. Dickerson said that the number of cases reported in 1972 was almost double the present figure.

Hill, Daniel cite reform spirit in government of Texas

A picture of reform and renaissance in state government was painted by Speaker of the Texas House Price Daniel, Jr., and Texas Attorney General John Hill for participants in TMA's January Legislative Seminar.

Speaker Daniel told TMA members and guests that the 63rd Legislature has already made great progress in its first two weeks of operation. He cited the adoption of new procedural rules, the completion of some committee hearings, and the progress of the bill to create a constitutional commission as examples of the Legislature's response to what he called a "mandate for change" from the people of Texas.

Daniel said the ill-fated 62nd Legislative session was a trying time for state government. The Sharpstown banking scandal, plus the prosecution of several legislators for misuse of state funds led to "a shattering of the public confidence" according to Daniel. He noted that the public had responded by sending a number of new men to Austin—half of the House and almost half of the Senate.

Daniel said this mandate, and the strong call for more openness in government led to the adoption of the reform rules. Extensive preparations for the session have helped get the 63rd Legislature moving, and Daniel says he feels most optimistic.

Speaker of the House Price Daniel, Jr., left, looks over his notes before addressing TMA members at the Legislative Seminar. Beside Rep. Daniel, from left to right, are Drs. Sam Barnes, Trinity, and Joe Ainsworth, Houston.

Atty. Gen. Hill echoed Daniel's optimism, saying "We're on the threshold of a real renaissance in state government."

He explained how the office of the Attorney General operates and enumerated some of the issues with which he and his staff will concern themselves in the coming months.

Hill said he plans to do something about the loss of tax money, adding that he would have a major statement on his plans in this area.

He called for major reforms in the court system, and said the process must be speeded up. Hill said he feels that the assurance of a fair and speedy trial could do much to deter the rising crime rate.

Also in the area of crime and courts, Hill said his office is putting together a major strike force to combat organized crime in Texas. He said he is convinced that organized crime definitely has a beachhead in Texas and that it is seeking to expand. He said the strike force will assist local governments in sophisticated criminal investigation in an effort to combat the spread of organized crime.

In addition, Hill said he plans to devote attention to environmental protection and consumer affairs. He said his department is establishing "branch offices" in several major metropolitan areas.

In this way, he said he hopes to be able to take the office to the people and to help citizens feel that he is in reality the attorney for all the people of Texas.

In regard to medicine, Hill says he feels that we have the best quality medical care available and that what we need to work on now is the delivery of that care. "I would challenge you," he said, "to explore these innovative methods."

Atty. Gen. Hill talks with TMA Assistant General Counsel Sam Stone, Jr., center, and conference participates at Legislative Seminar.

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Contraindications: Porphyria, sensitivity to barbiturates, or susceptibility to dependence on sedative-hypnotics. **Warning:** May be habit forming. **Precautions:** Exercise caution in: moderate to severe hepatic disease; withdrawal in drug dependence or the taking of excessive doses over a long period, to avoid withdrawal symptoms; elderly or debilitated patients, to avoid possible marked excitement or depression; use with alcohol or other CNS depressants, because of combined effects. **Adverse Reactions:** Drowsiness at daytime sedative dose levels, skin rashes, "hangover" and gastrointestinal disturbances are seldom seen. **Usual Adult Dosage:** For daytime sedation, 15 mg. to 30 mg. t.i.d. or q.i.d. For hypnosis, 50 mg. to 100 mg. **Available as:** Tablets, 15 mg., 30 mg., 50 mg., 100 mg.; Elixir, 30 mg. per 5 cc. (alcohol 7%). BUTICAPS® [Capsules BUTISOL SODIUM (sodium butabarbital)] 15 mg., 30 mg., 50 mg., 100 mg.

McNEIL McNeil Laboratories, Inc., Fort Washington, Pa. 19034

Pinworm therapy is often a family affair

Contraindications: History of hypersensitivity to thiabendazole.
Warnings: If hypersensitivity reactions occur, drug should be discontinued immediately and not resumed. Rarely, erythema multiforme has been associated with thiabendazole therapy; in severe cases (Stevens-Johnson syndrome), fatalities have occurred. Because CNS side effects may occur quite frequently, activities requiring mental alertness should be avoided. Safe use in pregnancy or lactation has not been established.
Precautions: Ideally, supportive therapy is indicated for anemic, dehydrated, or malnourished patients prior to initiation of anthelmintic therapy. In presence of hepatic or renal dysfunction, patients should be carefully monitored.
Adverse Reactions: Most frequently encountered are anorexia, nausea, vomiting, and dizziness. Less frequently, diarrhea, epigastric distress, pruritus, weariness, drowsiness, giddiness, and headache have occurred. Rarely, tinnitus, hyperirritability, numbness, abnormal sensation in eyes, blurring of vision, xanthopsia; hypotension, collapse; enuresis; transient rise in cephalin flocculation and SGOT; perianal rash, cholestasis and parenchymal liver damage; hyperglycemia; transient leukopenia; malodor of the urine, crystalluria, hematuria; appearance of live Ascaris in the mouth and nose. Hypersensitivity reactions

A New Dosage Form:

Chewable Tablets 500 mg Mintezol®
(THIABENDAZOLE | MSD)

so easy to take everyone in the family can keep to the regimen you prescribe

include: fever, facial flush, chills, conjunctival injection, angioedema, anaphylaxis, skin rashes, erythema multiforme (including Stevens-Johnson syndrome), and lymphadenopathy.
Supplied: Chewable tablets, containing 500 mg thiabendazole, in boxes of 36, strip packaged, individually foil wrapped; Suspension, containing 500 mg thiabendazole per 5 cc, in bottles of 120 cc.

For more detailed information, consult your MSD representative or see full prescribing information. Merck Sharp & Dohme, Division of Merck & Co., Inc., West Point, Pa. 19486

MSD MERCK SHARP & DOHME

addendum

INDICATION | DOSAGE SCHEDULE

MINTEZOL® (Thiabendazole, MSD) has demonstrated effectiveness against a broad spectrum of nematode infections. Dosages are weight related. For your convenience, the information in the weight-dose chart below is included in the full prescribing information and in the 1973 edition of PDR.
The recommended maximum daily dose of MINTEZOL is 3 g (6 tablets).
MINTEZOL should be given after meals if possible. Dietary restriction, complementary medications, and cleansing enemas are not needed.
The usual dosage schedule for all conditions is two doses per day. The size of the dose is determined by the patient's weight.

Weight-dose chart:

WEIGHT (lb)	EACH DOSE (g)	TABLETS
25	0.25	½
50	0.5	1
75	0.75	1½
100	1.0	2
125	1.25	2½
150 & over	1.5	3

The regimen for each indication follows:

INDICATION	REGIMEN	COMMENTS
Pinworm disease	Two doses per day for 1 day. Repeat in 7 days. This regimen is designed to reduce the risk of reinfection.	If this is not practical, give 2 doses per day for 2 successive days.
Threadworm,* large roundworm,* hookworm,* and whipworm* disease	Two doses per day for 2 successive days.	A single dose of 20 mg/lb or 50 mg/kg may be employed as an alternative schedule, but a higher incidence of side effects should be expected.
Creeping eruption	Two doses per day for 2 successive days.	If active lesions are still present 2 days after completion of therapy, a second course is recommended.
Symptoms of trichinosis* during the invasive phase of the disease	Two doses per day for 2 to 4 successive days according to the response of the patient.	The optimal dosage for the treatment of trichinosis has not been established.

*Clinical experience with thiabendazole for treatment of each of these conditions in children weighing less than 30 lb has been limited.

When Diarrhea HURTS...

...think of the anti-diarrheal with outstanding relief-giving ingredients

PAREGORIC (60 min. in each fl. oz.) for pain relief. Warning: May be habit forming.
Bismuth Subsalicylate for coating action.
Zinc Phenolsulfonate to soothe affected tissues.
Irish Moss for adsorption.
Pectin N. F. to help adsorb and solidify.
Alcohol (2% in each fl. oz.)
Yes, Infantol Pink controls and relieves diarrhea in adults and children. Works quickly and safely. And Infantol Pink does not contain "problem" ingredients such as Kaolin (can set up constipation "rebound") or belladonna alkaloids (tends to make mouth and throat unpleasantly dry; may cause blurred vision).

The Infantol Pink formula is well tolerated by adults and children without unpleasant side effects. Note: temporary darkening of the stool may occur.
Dosage schedule: 1 dose every 15 minutes for 4 doses; then 1 dose every 2 hours until diarrhea symptoms subside.
Dosage amounts: Adults, 2 tablespoonfuls; children 6 to 12 years, 2 teaspoonfuls; children 3 to 5 years, 1 teaspoonful — or as directed by physician.
Supplied: 4 ounces, 8 ounces, pints and gallons.
Ample pain-relieving power—when taken according to directions, the adult patient receives up to 16cc of Paregoric, or slightly more than 3 teaspoonfuls during the first hour.
Requires no prescription in most states, though record of purchase is required.

Effective relief in the first hour's dosage

First Texas Pharmaceuticals, Inc. Dallas, Texas 75222
the Concern for Care

He won't resist feeling better with Mylanta®

Because the taste is good.

- ☐ promptly relieves hyperacidity
- ☐ also relieves fullness and bloating
- ☐ non-constipating

LIQUID **MYLANTA**® TABLETS

aluminum and magnesium hydroxides with simethicone

STUART PHARMACEUTICALS | Division of ICI America Inc. | Wilmington, Del. 19899 | Pasadena, Calif. 91109

Why send him to the islets of Langerhans?

Since sulfonylureas promote the release of insulin which is lipogenic and helps transport glucose into adipose tissue...

And since many overweight patients already have normal or high levels of endogenous insulin, why not consider DBI-TD?

It lowers blood sugar without stimulating insulin secretion from the pancreas. And this may be important to the dieting diabetic.

In adult-onset, nonketotic diabetics uncontrolled by diet alone...

DBI-TD® Geigy
phenformin HCl

lowers blood sugar without raising blood insulin.

DBI® phenformin HCl
Tablets of 25 mg.
DBI-TD® phenformin HCl
Timed-Disintegration
Capsules of 50 and 100 mg.

Indications: Stable adult diabetes mellitus; sulfonylurea failures, primary and secondary; adjunct to insulin therapy of unstable diabetes mellitus.

Contraindications: Diabetes mellitus that can be regulated by diet alone; juvenile diabetes mellitus that is uncomplicated and well regulated on insulin; acute complications of diabetes mellitus (metabolic acidosis, coma, infection, gangrene); during or immediately after surgery where insulin is indispensable; severe hepatic disease; renal disease with uremia; cardiovascular collapse (shock); after disease states associated with hypoxemia.

Warnings: Use during pregnancy is to be avoided.

Precautions: 1. *Starvation Ketosis:* This must be differentiated from "insulin lack" ketosis and is characterized by ketonuria which, in spite of relatively normal blood and urine sugar, may result from excessive phenformin therapy, excessive insulin reduction, or insufficient carbohydrate intake. Adjust insulin dosage, lower phenformin dosage, or supply carbohydrates to alleviate this state. **Do not give insulin without first checking blood and urine sugar.**
2. *Lactic Acidosis:* This drug is not recommended in the presence of azotemia or in any clinical situation that predisposes to sustained hypotension that could lead to lactic acidosis. To differentiate lactic acidosis from ketoacidosis, periodic determinations of ketones in the blood and urine should be made in diabetics previously stabilized on phenformin, or phenformin and insulin, who have become unstable. If electrolyte imbalance is suspected, periodic determinations should also be made of electrolytes, pH, and the lactate-pyruvate ratio. The drug should be withdrawn and insulin, when required, and other corrective measures instituted immediately upon the appearance of any metabolic acidosis.
3. *Hypoglycemia:* Although hypoglycemic reactions are rare when phenformin is used alone, every precaution should be observed during the dosage adjustment period particularly when insulin or a sulfonylurea has been given in combination with phenformin.

Adverse Reactions: Principally gastrointestinal; unpleasant metallic taste, continuing to anorexia, nausea and, less frequently, vomiting and diarrhea. Reduce dosage at first sign of these symptoms. In case of vomiting, the drug should be immediately withdrawn. Although rare, urticaria has been reported, as have gastrointestinal symptoms such as anorexia, nausea and vomiting following excessive alcohol intake.
(B) 98-146-103-D (6/72)

For complete details, including dosage, please see full prescribing information.

GEIGY Pharmaceuticals
Division of
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Ardsley, New York 10502

DBI-8666

TEXAS ASSOCIATION OF OBSTETRICIANS AND GYNECOLOGISTS

The annual meeting of the Texas Association of Obstetricians and Gynecologists will be held in Austin, March 16-17. Drs. Luigi Mastroianni, Jr., professor and chairman, department of obstetrics and gynecology, University of Pennsylvania School of Medicine, Philadelphia; and S. Jan Behrman, director, Center for Research in Reproductive Biology, University of Michigan Medical Center, Ann Arbor, will be featured guest speakers.

Contact: Dr. Dennis M. Voulgaris, 2100 N. Fulton St., Wharton 77488, secretary-treasurer.

TEXAS RADIOLOGICAL SOCIETY

Radiologists in Texas and surrounding states are invited to attend the 60th annual meeting of the Texas Radiological Society, March 1-3, at the Green Oaks Inn, Fort Worth. Dr. Milton Elkin, professor and chairman, department of radiology, Albert Einstein College of Medicine, New York, will discuss the role of radiological studies in the diagnosis of medical diseases of the kidney, and radiological considerations of obstructive nephropathy. "The Place of Radiation in the Management of Breast Cancer" and "Studies on the Pathogenesis of Hodgkin's Disease" will be presented by Dr. Samuel Hellman, chairman, department of radiation therapy, Harvard Medical School, Boston. Other out-of-state guest speakers are Dr. E. James Potchen, chief of nuclear medicine, Mallinckrodt Institute, St. Louis; and Dr. Frank Zboralske, chief of diagnostic radiology, Stanford University School of Medicine, Palo Alto, Calif. Dr. Zboralske will discuss clinical and roentgenographic features of hiatal hernia in infants and children.

Contact: Dr. Herman C. Sehested, 800 Fifth Ave., Fort Worth 76104, secretary-treasurer.

AMERICAN MEDICAL ASSOCIATION

In cooperation with the Texas Medical Association and other organizations, the American Medical Association will present the 26th National Conference on Rural Health, March 29-30, at the Statler-Hilton Hotel in Dallas. Themed "Rural Health—Innovation to Implementation," the purpose of the Conference is to explore new needs and report on new developments in rural development and rural health, consumer health education, health science schools and rural health manpower, national health service corps, rural health systems and the young physician, community organization for rural health services, the health team in rural health development, research in rural health services, and the future and rural health.

Contact: Dr. Bond L. Bible (PhD), Department of Rural Health, Division of Medical Practice, AMA, 535 N. Dearborn St., Chicago 60610.

COMING MEETINGS

CURRENT MEETINGS IN TEXAS

RICHARDSON ASSOCIATION FOR CHILDREN WITH LEARNING DISABILITIES will present a conference entitled, "The Multidisciplinary Approach to Learning Disabilities," Feb. 24, in Dallas. Dr. Sylvia O. Richardson, Associate Clinical Professor of Pediatrics, University of Cincinnati College of Medicine, will deliver the keynote address. Concurrent workshops will cover emotional aspects of learning disabilities, the multiple mechanisms involved in learning, the neurologist looks at learning disabilities, the pediatrician looks at learning disabilities, visual perception and failure to learn, and a multisensory approach to remedial language training. Contact: RACLD, PO Box 3012, Richardson 75080.

TEXAS ACADEMY OF FAMILY PHYSICIANS, VALLEY CHAPTER, announces the Sixth Annual Medical Surgical Conference of the Rio Grande Valley, scheduled for March 29-31 in McAllen. Participants in the Conference will be Drs. Joseph Godfrey, orthopedic surgeon, Buffalo, NY; Milton Helpern, chief medical examiner for the City of New York; Denton Cooley, Houston; Orville J. Stone, department of dermatology, UT Medical Branch, Galveston; Sidney Kaye (PhD), professor of toxicology, legal medicine and toxicology, University of Puerto Rico School of Medicine, San Juan; Chauncy D. Leake (PhD), University of California School of Medicine, San Francisco; Paul Fink, professor and director of education and training, Hahnemann Medical College, Philadelphia; Joseph Painter, Houston; Jim L. Story, professor, division of neurosurgery, UT Health Science Center at San Antonio; and Carmault B. Jackson, San Antonio. Contact: Dr. Mario E. Ramirez, Box 188, Roma 78584, general chairman.

For other courses and symposiums, see Continuing Education Courses, pp. 39-40.

CURRENT REGIONAL MEETINGS

NEW ORLEANS GRADUATE MEDICAL ASSEMBLY has scheduled its annual meeting for March 19-22 in New Orleans. Dr. William M. Lukash, White House physician and head of the gastroenterology clinic, US Naval Hospital, Bethesda, Md., will be one of the many distinguished speakers from throughout the country participating in the 36th annual meeting. Dr. Lukash will present a report on his visit to China with President Nixon entitled, "Observations of Chinese Medicine." Medical motion pictures, a clinicopathologic conference, and technical exhibits are included in the program format. Contact: Frances W. Shumaker, 1430 Tulane Ave., New Orleans 70112, executive secretary.

SOCIETY OF NUCLEAR MEDICINE, SOUTHWESTERN CHAPTER, will present simultaneous teaching sessions and a scientific program, March 16-18, in New Orleans. The 18th annual meeting will be held at the Fairmont Roosevelt Hotel. Teaching sessions will cover the subject of nuclear medicine, and are designed to help those preparing to take the American Board of Nuclear Medicine examinations in April, 1973. A lecture syllabus based on the previous course will be available. The scientific program will consist of paper presentations, scientific exhibits, and a technologists' workshop and program. Contact: Dr. Ted Bloch, Suite 306, Medical Arts Bldg., 3439 Prytania St., New Orleans 70115, program chairman.

CURRENT NATIONAL MEETINGS

AMERICAN ACADEMY OF PEDIATRICS' spring session is scheduled for April 9-12 in Boston. Thirty-eight child health care subjects ranging from recent advances in pediatric surgery to adolescent drug dependence will be presented. Topics to be covered include complications of cystic fibrosis, children out of step with immunizations, indications for use of human growth hormone, fluoride by drop or pill, and present status of rubella vaccine. Discussions will also focus on many social and behavioral aspects of pediatrics, including child health supervision, day care centers, current status of the pediatric and school nurse practitioner, and the pros and cons of screening lead and sickle cell diseases. Contact: Dr. Robert G. Frazier, 1801 Hinman Ave., Evanston, Ill. 60204, executive director.

AMERICAN CANCER SOCIETY's National Conference on Urologic Cancer will be staged at the Shoreham Hotel in Washington, DC, March 29-31. The objective of the Conference is to summarize the present knowledge in the field of urologic neoplasms for an interdisciplinary audience including the general practitioner, internist, surgeon, pediatrician, radiologist, and urologist. Scheduled are sessions on cancer of the kidney, bladder, prostate, testis, adrenal urethra, and penis, and pediatric urologic cancer. Contact: Dr. Sidney L. Arje, 219 E. 42nd St., New York 10017.

AMERICAN COLLEGE OF SURGEONS will meet at the Americana and Hilton Hotels in New York City, April 1-4. General sessions will be devoted to surgical infections, cancer of the salivary glands, hepatitis and the general surgeon, hand injuries, coronary artery diseases, respiratory insufficiency, cancer, acute gastrointestinal hemorrhage, hemorrhage and thrombosis in 1973, and granulomatous disease of the intestine. Cancer, shock, gastrointestinal surgery, pediatric surgery, fluids and electrolytes, trauma, peripheral vascular disease, and endocrine surgery are topics of postgraduate courses being offered during the meeting. Contact: C. Rollins Hanlon, 55 E. Erie St., Chicago 60611, director.

AMERICAN MEDICAL ASSOCIATION's Judicial Council announces that the Fourth National Congress on Medical Ethics will be held April 26-28 at the Washington-Hilton in Washington, DC. Distinguished speakers and panelists will discuss ethical issues of growing concern to medical professionals and society—from the more traditional, such as fee splitting and solicitation—to the more current, such as genetic engineering and behavior control. Contact: AMA, Judicial Council, 535 N. Dearborn St., Chicago 60610.

AMERICAN MEDICAL ASSOCIATION has scheduled its 7th National Congress on the Socioeconomics of Health Care for April 13-14 at Chicago's Marriott Motor Hotel. The congress is designed to assist interested physicians to increase personal productivity by adoption of more efficient business and office practice procedures and to identify sources of information and services in the area of practice management. Program content includes M.D. productivity, office productivity, and systems productivity. Contact: AMA, Division of Medical Practice, 535 N. Dearborn St., Chicago 60610.

AMERICAN SOCIETY FOR CLINICAL PHARMACOLOGY AND THERAPEUTICS' 74th annual meeting will be held at the Monteleone Hotel in New Orleans, March 22-23. "Clinical Toxicology" and "New Developments in Cardiovascular Drug Therapy" are topics to be studied in symposia. In concurrent sessions, cardiovascular drugs, drug metabolism, chemotherapy, clinical trials, CNS active drugs, endocrine—anti-inflammatory drugs, pharmacokinetics, and clinical toxicology will be discussed. Contact: Elaine Galasso, 1718 Gallagher Rd., Norristown, Pa. 19401, executive secretary.

AMERICAN SOCIETY OF CONTEMPORARY MEDICINE AND SURGERY has themed its annual meeting, "Continuing Education for Excellence in Medicine and Surgery." Contemporary surgical procedures in diseases of the cardiovascular system, proctology, gynecology, urology, otolaryngology, orthopedics, gastroenterology, reconstruction, and esthetic surgery will be emphasized during the meeting, scheduled for Feb. 25 to March 3 in Miami Beach. Presentation topics are "Management of Cystitis," "Depepsin in Peptic Ulcer," "Chemotherapy and Chemosurgery in the Prevention and Treatment of Skin Cancer," "New Methods of Abortion," "Laser Therapy," "Thermography," and "Hand Prosthesis." Contact: Virginia Kendall, 30 N. Michigan Ave., Rm. 1629, Chicago 60602.

AMERICAN SOCIETY OF CONTEMPORARY OPHTHALMOLOGY will meet at the Fontainbleau Hotel in Miami Beach, Feb. 25-March 3. Topics related to reconstruction surgery, diseases of the cornea, strabismus, cataract, glaucoma, and soft lens will be presented. Recent advances in retinal detachment will be covered in a special symposium, and continuing education courses will cover "Microsurgery of the Cornea" and "Microsurgery of the Anterior Segment." Contact: American Society for Contemporary Ophthalmology, Rm. 1629, 30 N. Michigan Ave., Chicago 60602.

MORE COMING MEETINGS

■ Denotes Texas meetings.

ALSO IN MARCH

AMERICAN MEDICAL ASSOCIATION, Quality of Life Congress, Chicago, March 7-10; AMA-AMPAC Public Affairs Workshop, Washington, DC, March 10-11; National Medicolegal Symposium, Las Vegas, March 22-25, 1973. AMA, 535 N. Dearborn St., Chicago 60610.

■ AMERICAN MEDICAL ASSOCIATION/TEXAS MEDICAL ASSOCIATION, Speakers and Leadership Training Seminar, Austin, March 10-11, 1973. Jon R. Hornaday, TMA, 1801 N. Lamar Blvd., Austin 78701, Dir. of PR.

AMERICAN SOCIETY OF ABDOMINAL SURGEONS, Hawaii, March 15-25, 1973. Dr. Blaise F. Alfano, 675 Main St., Melrose Mass. 02176, Exec. Sec.

AMERICAN SOCIETY FOR AESTHETIC PLASTIC SURGERY, INC., Newport Beach, Calif., March 11-15, 1973. Dr. Simon Fredricks, 1103 Medical Towers, Houston 77025, Prog. Chrmn.

ASSOCIATION FOR CHILDREN WITH LEARNING DISABILITIES, Detroit, March 14-17, 1973. Charles B. Slack, 6900 Grove Rd., Thorofare, NJ 08086.

■ DALLAS SOUTHERN CLINICAL SOCIETY, Dallas, March 12-14, 1973. Millard J. Heath, 433 Medical Arts Bldg., Dallas 75201, Exec. Officer.

■ NINTH DISTRICT MEDICAL SOCIETY, Navasota, March 15, 1973. Dr. Mac M. Diamond, 3332 Plainview, Pasadena 77504, Sec.

OKLAHOMA CITY CLINICAL SOCIETY, Oklahoma City, March 29-31, 1973. Alma O'Donnell, 601 Northwest Expressway, Oklahoma City 73118, Exec. Sec.

TEXAS UROLOGICAL SOCIETY, Shreveport, La., March 22-24, 1973. Dr. C. V. Chenoweth, 1016 Clinic Dr., Tyler 75701, Sec.

ALSO IN APRIL

AMERICAN ACADEMY OF FACIAL PLASTIC AND RECONSTRUCTIVE SURGERY, St. Louis, April 3-5, 1973. Dr. Carl N. Patterson, 1110 W. Main St., Durham, NC 27701, Sec.

AMERICAN ACADEMY OF NEUROLOGY, Boston, April 23-28, 1973. Stanley A. Nelson, 4005 W. 65th St., Minneapolis 55435, Exec. Sec.

AMERICAN ASSOCIATION OF ANATOMISTS, New York City, April 9-12, 1973. Dr. John E. Pauly, University of Arkansas School of Medicine, Little Rock 72201, Sec.

■ AMERICAN ASSOCIATION OF PLANNED PARENTHOOD PHYSICIANS, Houston, April 11-14, 1973. Richard A. Ferguson, 3601 Fannin St., Houston 77004, Exec. Dir.

■ AMERICAN ASSOCIATION FOR THORACIC SURGERY, Dallas, April 16-18, 1973. William T. Maloney, 6 Beacon St., Suite 620, Boston 02108, Exec. Sec.

AMERICAN COLLEGE OF ALLERGISTS, Atlanta, April 7-12, 1973. Dr. John D. Gillaspie, 2141 14th St., Boulder, Colo. 80302, Exec. Sec.

AMERICAN COLLEGE HEALTH ASSOCIATION, Chicago, April 24-27, 1973. James W. Dilley, 2807 Central St., Evanston, Ill. 60201, Exec. Dir.

AMERICAN COLLEGE OF PHYSICIANS, Chicago, April 8-13, 1973. Dr. Edward C. Rosenow, Jr., 4200 Pine St., Philadelphia 19104, Exec. V.-Pres.

AMERICAN COLLEGE OF RADIOLOGY, San Francisco, April 1-6, 1973. William C. Stronach, 20 N. Wacker Dr., Room 2920, Chicago 60606, Exec. Dir.

AMERICAN GERIATRICS SOCIETY, INC., Beverly Hills, April 25-26, 1973. Dr. Edward Henderson, 10 Columbus Circle, New York 10019, Exec. Dir.

AMERICAN SOCIETY OF INTERNAL MEDICINE, Chicago, April 6-8, 1973. William R. Ramsey, 525 Hearst Bldg., San Francisco 94103, Exec. Dir.

■ EIGHTH DISTRICT MEDICAL SOCIETY, Bay City, April 14, 1973. Dr. Edward F. Pesek, 1413 Avenue G., Bay City 77414, Sec.

INDUSTRIAL MEDICAL ASSOCIATION, Denver, April 15-19, 1973. Howard N. Schulz, 150 N. Wacker Dr., Chicago 60606, Exec. Dir.

INTERNATIONAL ACADEMY OF PROCTOLOGY, 25th Annual Congress and Teaching Seminar, Tokyo, Hong Kong, Thailand, April 29-May 14, 1973. Dr. Alfred J. Cantor, 147-41 Sanford Ave., Flushing, NY 11355, Exec. Officer.

NATIONAL COUNCIL ON ALCOHOLISM, INC., Washington, DC, April 4-6, 1973. William W. Moore, Jr., 2 Park Ave., New York 10016, Exec. Dir.

■ TENTH DISTRICT MEDICAL SOCIETY, April 1973. E. Mittendorf, PO Box 768, Beaumont 77704, Exec. Sec.

■ TEXAS DENTAL ASSOCIATION, Austin, April 29-May 2, 1973. Dr. Joe C. Carrington, Jr., 4920 Interregional Hwy., Austin 78751, Exec. Officer.

■ TEXAS SURGICAL SOCIETY, Galveston, April 1-3 1973. Dr. Robb H. Rutledge, 901 S. Lake, Ft. Worth 76104, Sec.

■ TEXAS TUBERCULOSIS AND RESPIRATORY DISEASE ASSOCIATION, Dallas, April 13-14, 1973. Pauline K. Matthis, 2406 Manor Rd., Austin 78722, Exec. Dir.

■ THIRTEENTH DISTRICT MEDICAL SOCIETY, Mineral Wells, April 1973. Dr. Dorothy Patras, PO Box 1118, Ft. Worth 76101, Sec.-Treas.

MAY

AEROSPACE MEDICAL ASSOCIATION, Las Vegas, May 7-10, 1973. Dr. Merrill H. Goodwin, Washington Nat'l. Airport, Washington, DC 20001, Exec. Sec.

■ AMERICAN ASSOCIATION OF MEDICAL ASSISTANTS, STATE OF TEXAS, Wichita Falls, May 16-20, 1973. Patty Fouts, 2211 Lucas St., Wichita Falls 76303, Corr. Sec.

AMERICAN COLLEGE OF OBSTETRICIANS AND GYNECOLOGISTS, Bal Harbour, Fla., May 21-24, 1973. Dr. Michael Newton, 79 W. Monroe, Chicago 60603, Exec. Dir.

■ AMERICAN COLLEGE OF SURGEONS, NORTH TEXAS CHAPTER, Dallas, May 19, 1973. Dr. Ronald F. Garvey, 6011 Harry Hines Blvd., Dallas 75235, Sec.

AMERICAN GASTROENTEROLOGICAL ASSOCIATION, New York City, May 20-26, 1973. Charles B. Slack, 6900 Grove Rd., Thorofare, NJ 08086, Exec. Sec.

AMERICAN PEDIATRIC SOCIETY, San Francisco, May 16-20, 1973. Dr. C. D. Cook, 333 Cedar St., New Haven, Conn. 06514, Sec.

AMERICAN PSYCHIATRIC ASSOCIATION, Honolulu, May 7-11, 1973. Dr. Walter E. Barton, 1700 18th St., NW, Washington, DC 20009, Med. Dir.

■ AMERICAN PSYCHIATRIC ASSOCIATION, TEXAS DISTRICT BRANCH, Dallas, May 5, 1973. Dr. Harry K. Davis, 200 University Blvd., Galveston 77550, Sec.-Treas.

AMERICAN SOCIETY FOR AESTHETIC PLASTIC SURGERY, INC., Monterey, Calif., May 29-June 1, 1973. Dr. Eugene H. Courtiss, 2000 Washington St., Newton Lower Falls, Boston 02162, Sec.

AMERICAN THORACIC SOCIETY, New York City, May 20-23, 1973. Robert Weymueller, 1740 Broadway, New York 10019, Exec. Sec.

AMERICAN UROLOGICAL ASSOCIATION, INC., New York City, May 14-17, 1973. Richard J. Hannigan, 1120 N. Charles St., Baltimore 21201, Exec. Sec.

MEDICAL LIBRARY ASSOCIATION, Kansas City, Kan., May 27-31, 1973. Helen Brown Schmidt, 919 N. Michigan Ave., Chicago 60611, Exec. Sec.

NATIONAL LEAGUE FOR NURSING, Minneapolis, May 6-9, 1973. Margaret E. Walsh, 10 Columbus Circle, New York 10019, Sec. & Gen. Dir.

NATIONAL SOCIETY FOR THE PREVENTION OF BLINDNESS, INC., New York City, May 16-18, 1973. Dr. Wilfred D. David, 79 Madison Ave., New York 10016, Exec. Dir.

NATIONAL TUBERCULOSIS AND RESPIRATORY DISEASE ASSOCIATION, New York City, May 20-23, 1973. Dr. Robert J. Anderson, 1740 Broadway, New York 10019, Mng. Dir.

■ SOUTH CENTRAL ASSOCIATION OF BLOOD BANKS, Corpus Christi, May 23-25, 1973. Elsie Howard, 2109 Commerce, Dallas 75201, Exec. Sec.

SOUTHWESTERN SURGICAL CONGRESS, Scottsdale, Ariz., May 7-10, 1973. Dr. Jack A. Barney, 301 Pasteur Medical Bldg., Oklahoma City 73101, Sec.-Treas.

■ TEXAS COMMISSION ON ALCOHOLISM, Dallas, May 3, 1973. K. E. Beahan, 809 Sam Houston State Office Bldg., Austin 78701, Exec. Dir.

■ TEXAS DERMATOLOGICAL SOCIETY, Dallas, May 5, 1973. Dr. Eugene P. Schoch, Jr., 3A Medical Arts Sq., Austin 78705, Sec.

■ TEXAS HOSPITAL ASSOCIATION, Houston, May 20-23, 1973. Gordon L. Wright, PO Box 4553, Austin 78765, Dir. of Ed. & Pub. Info.

■ TEXAS MEDICAL ASSOCIATION, Dallas, May 3-6, 1973. C. Lincoln Williston, 1801 N. Lamar Blvd., Austin 78701, Exec. Sec.

■ TEXAS OPHTHALMOLOGICAL ASSOCIATION, Dallas, May 4, 1973. Dr. David S. Dow, 2223 Austin Ave., Waco 76701, Sec.

JUNE

AMERICAN DIABETES ASSOCIATION, Chicago, June 23-24, 1973. J. Richard Connelly, 18 East 48th St., New York 10017, Exec. Dir.

AMERICAN ELECTROENCEPHALOGRAPHIC SOCIETY, Boston, June 14-16, 1973. Margaret Henry, 36391 Maple Grove Rd., Willoughby Hills, Ohio 44094, Exec. Sec.

■ AMERICAN HEART ASSOCIATION, TEXAS AFFILIATE INC., Dallas, June 19-24, 1973. Dudley H. Hafner, PO Box 9928, Austin 78766, Exec. Dir.

AMERICAN MEDICAL ASSOCIATION, New York City, June 24-28, 1973. AMA, 535 N. Dearborn St., Chicago 60610.

AMERICAN NEUROLOGICAL ASSOCIATION, Montreal, June 11-13, 1973. Dr. Samuel A. Trufant, Cincinnati General Hospital, Cincinnati 45229, Sec.

■ AMERICAN PHYSICAL THERAPY ASSOCIATION, Houston, June 24-29, 1973. Royce P. Noland, 1156 15th St. NW, Washington, DC 20005, Exec. Dir.

AMERICAN PROCTOLOGIC SOCIETY, Detroit, June 10-14, 1973. Harriette Gibson, 320 W. Lafayette, Detroit 48226, Adm. Sec.

■ TEXAS PHARMACEUTICAL ASSOCIATION, San Antonio, June 20-23, 1973. Luther R. Parker, PO Box 4487, Austin 78701, Exec. Officer.

JULY

AMERICAN ACADEMY OF FAMILY PHYSICIANS, NEW MEXICO CHAPTER, 16th Annual Ruidoso Summer Clinic, Ruidoso, NM, July 16-19, 1973. Bob Reid, PO Box 456, Sunland Park, NM 88063, Exec. Sec.

FLYING PHYSICIANS ASSOCIATION, San Diego, July 22-27, 1973. Albert Carriere, 801 Green Bay Rd., Lake Bluff, Ill. 60044, Exec. Officer.

ROCKY MOUNTAIN CANCER CONFERENCE, Denver, July 13-14, 1973. F. C. Schmidt, 1764 Gilpin, Denver 80218, Exec. V.-Pres.

AUGUST

■ AMERICAN CANCER SOCIETY, TEXAS DIVISION, Dallas, Aug. 23-24, 1973. Curt W. Reimann, 5100 Ridge Oak, Austin 78731, Exec. V.-Pres.

SEPTEMBER

■ AMERICAN ACADEMY OF OPHTHALMOLOGY AND OTOLARYNGOLOGY, Dallas, Sept. 16-20, 1973. Dr. C. M. Kos, 15 Second St. SW, Rochester, Minn. 55901.

AMERICAN CANCER SOCIETY, Second National Conference on Cancer of the Colon and Rectum, Bal Harbour, Fla., Sept. 27-29, 1973. Dr. Sidney L. Arje, 219 E. 42nd St., New York 10017.

AMERICAN ROENTGEN RAY SOCIETY, Montreal, Sept. 25-28, 1973. Dr. Ted F. Leigh, Emory University Clinic, Atlanta 30322, Exec. Sec.

INTERNATIONAL MEDICAL CONGRESS, Fourth International Conference on Birth Defects, Vienna, Austria, Sept. 2-8, 1973. Richard C. Gedney, 1275 Mamaroneck Ave., White Plains, NY 10605, Exec. Sec.

■ PANHANDLE DISTRICT MEDICAL SOCIETY, Lubbock, Sept. 15, 1973. Carlie Umphres, PO Box 3276, Amarillo 79106, Exec. Officer.

■ TEXAS PEDIATRIC SOCIETY, Austin, Sept. 1973. Dr. Pat A. Cato, 1015 E. 32nd St., Austin 78705, Sec.

OCTOBER

AMERICAN ACADEMY OF FAMILY PHYSICIANS, Denver, Oct. 1-4, 1973. Roger Tusken, Volker Blvd. at Brookside, Kansas City, Mo. 64112, Exec. Dir.

AMERICAN ACADEMY OF PHYSICAL MEDICINE AND REHABILITATION, Washington, DC, Oct. 21-26, 1973. Creston Herold, 30 N. Michigan Ave., Chicago 60602, Exec. Officer.

AMERICAN ASSOCIATION FOR LABORATORY ANIMAL SCIENCE, Bal Harbour, Fla., Oct. 1-5, 1973. Joseph J. Garvey, 2317 W. Jefferson, Suite 208, Joliet, Ill. 60435, Exec. Sec.

AMERICAN ASSOCIATION OF MEDICAL ASSISTANTS, Washington, DC, Oct. 23-27, 1973. Dene R. Murray, One E. Wacker, No. 1510, Chicago 60601, Exec. Dir.

AMERICAN BOARD OF FAMILY PRACTICE, Oct. 20-21, 1973. Dr. Nicholas J. Pisacano, University of Kentucky Medical Center, Annex No. 2, Rm. 229, Lexington 40506, Sec.

AMERICAN COLLEGE OF CHEST PHYSICIANS, Toronto, Ontario, Oct. 21-25, 1973. Dr. Alfred Soffer, 112 East Chestnut, Chicago 60611, Exec. Dir.

AMERICAN COLLEGE OF SURGEONS, Chicago, Oct. 15-19, 1973. C. Rollins Hanlon, 55 E. Erie St., Chicago 60611, Dir.

AMERICAN CONGRESS OF REHABILITATION MEDICINE, Washington, DC, Oct. 21-26, 1973. Creston Herold, 30 N. Michigan Ave., Chicago 60602, Exec. Officer.

AMERICAN SOCIETY OF ANESTHESIOLOGISTS, San Francisco, Oct. 7-11, 1973. John W. Andes, 515 Busse Highway, Park Ridge, Ill. 60068, Exec. Sec.

AMERICAN SOCIETY OF PLASTIC AND RECONSTRUCTIVE SURGEONS, Hollywood, Fla., Oct. 21-26, 1973. Dallas F. Whaley, 29 E. Madison, Suite 807, Chicago 60602, Exec. Dir.

ASSOCIATION OF LIFE INSURANCE MEDICAL DIRECTORS OF AMERICA, New York City, Oct. 14-17, 1973. Dr. Athur E. Brown, 501 Boylston St., Boston 02117, Sec.

SOUTHERN PSYCHIATRIC ASSOCIATION, Miami, Oct. 6-9, 1973. Annette S. Boutwell, PO Box 10387, Raleigh, NC 27605, Exec. Sec.

■ TEXAS MEDICAL ASSOCIATION, Austin, Oct. 5-7, 1973. C. Lincoln Williston, 1801 N. Lamar Blvd., Austin 78701, Exec. Sec.

WORLD MEDICAL ASSOCIATION, Munich, Germany, Oct. 14-20, 1973. M. L. Natwick, 10 Columbus Circle, New York 10019, Exec. Sec.

NOVEMBER

AMERICAN ASSOCIATION OF BLOOD BANKS, Bal Harbour, Fla., Nov. 11-16, 1973. Lois J. James, 30 N. Michigan Ave., Chicago 60602, Cen. Office Mgr.

AMERICAN MEDICAL ASSOCIATION, Anaheim, Calif., Nov. 25-28, 1973. AMA, 535 N. Dearborn St., Chicago 60610.

■ TEXAS ACADEMY OF FAMILY PHYSICIANS, San Antonio, Nov. 5-7, 1973. Donald C. Jackson, 1905 N. Lamar Blvd., Austin 78705, Exec. Officer.

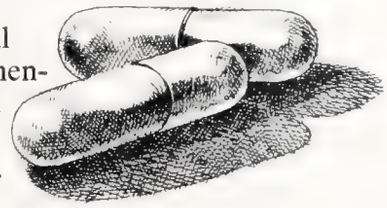
■ TEXAS DERMATOLOGICAL SOCIETY, San Antonio, Nov. 12-15, 1973. Dr. Eugene P. Schoch, Jr., 3A Medical Arts Sq., Austin 78705, Sec.

Because you practice medicine in the Lone Star State...

You carry one of the heaviest patient loads in the country. Since this may include a number of patients with gastritis and duodenitis... you should know more about Librax®

Helps reduce anxiety-related G.I. symptoms

A patient may blame his attacks of gastritis or duodenitis on "something he ate" but contributing factors may be his job, marital problems, financial worries or some other unmentioned source of stress and excessive anxiety that exacerbated the condition. Whether it is "something he ate" or "something eating him," adjunctive Librax can help. Librax offers both the antianxiety action of Librium® (chlordiazepoxide HCl), that can help relieve excessive anxiety, and the dependable anticholinergic action of Quarzan® (clidinium Br), that can help reduce gastrointestinal hypermotility and hypersecretion.



Patient-oriented dosage — up to 8 capsules daily in divided doses

For optimal response, dosage can be adjusted to suit patient needs—1 or 2 capsules, 3 or 4 times a day.

To help relieve anxiety-linked symptoms in gastritis and duodenitis

adjunctive Librax®

ROCHE

Each capsule contains 5 mg chlordiazepoxide HCl and 2.5 mg clidinium Br.

Before prescribing, please consult complete product information, a summary of which follows:

Contraindications: Patients with glaucoma; prostatic hypertrophy and benign bladder neck obstruction; known hypersensitivity to chlordiazepoxide hydrochloride and/or clidinium bromide.

Warnings: Caution patients about possible combined effects with alcohol and other CNS depressants. As with all CNS-acting drugs, caution patients against hazardous occupations requiring complete mental alertness (*e.g.*, operating machinery, driving). Though physical and psychological dependence have rarely been reported on recommended doses, use caution in administering Librium (chlordiazepoxide hydrochloride) to known addiction-prone individuals or those who might increase dosage; withdrawal symptoms (including convulsions), following discontinuation of the drug and similar to those seen with barbiturates, have been reported. Use of any drug in pregnancy, lactation, or in women of childbearing age requires that its potential benefits be weighed against its possible hazards. As with all anticholinergic drugs, an inhibiting effect on lactation may occur.

Precautions: In elderly and debilitated, limit dosage to smallest effective amount to preclude development of ataxia, oversedation or confusion (not more than two capsules per day initially; increase gradually as needed and tolerated). Though generally not recommended, if combination therapy with other psychotropics seems indicated, carefully consider individual pharmacologic effects, particularly in use of potentiating drugs such as MAO inhibitors and phenothiazines. Observe usual precautions in presence of impaired renal or hepatic function. Paradoxical reactions (*e.g.*, excitement, stimulation and acute rage) have been reported in psychiatric patients. Employ usual precautions in treatment of anxiety states with evidence of impending depression; suicidal tendencies may be present and protective measures necessary. Variable effects on blood coagulation have been reported very rarely in patients receiving the drug and oral anticoagulants; causal relationship has not been established clinically.

Adverse Reactions: No side effects or manifestations not seen with either compound alone have been reported with Librax. When chlordiazepoxide hydrochloride is used alone, drowsiness, ataxia and confusion may occur, especially in the elderly and debilitated. These are reversible in most instances by proper dosage adjustment, but are also occasionally observed at the lower dosage ranges. In a few instances syncope has been reported. Also encountered are isolated instances of skin eruptions, edema, minor menstrual irregularities, nausea and constipation, extrapyramidal symptoms, increased and decreased libido—all infrequent and generally controlled with dosage reduction; changes in EEG patterns (low-voltage fast activity) may appear during and after treatment; blood dyscrasias (including agranulocytosis), jaundice and hepatic dysfunction have been reported occasionally with chlordiazepoxide hydrochloride, making periodic blood counts and liver function tests advisable during protracted therapy. Adverse effects reported with Librax are typical of anticholinergic agents, *i.e.*, dryness of mouth, blurring of vision, urinary hesitancy and constipation. Constipation has occurred most often when Librax therapy is combined with other spasmolytics and/or low residue diets.

ROCHE

Roche Laboratories
Division of Hoffmann-La Roche Inc.
Nutley, New Jersey 07110

Who killed the wicked itch

(and the infection)*

?

snow white

Sporostacin Cream

TRADEMARK

(chlordantoin 1% and benzalkonium chloride 0.05%)

After you write your prescription for two tubes of soothing, fungicidal Sporostacin Cream, tell your patient not to be fooled by the quick relief of symptoms it affords. Make sure she knows how to use it as directed—for the *full* 14-day course of therapy. Then, on follow-up, you'll usually find that nonstaining, easy-to-use Sporostacin Cream has finished off vulvovaginal candidiasis in the nicest possible way.

two tubes...two weeks

* **Indication:** Based on a review of this drug by the National Academy of Sciences—National Research Council and/or other information, FDA has classified the indication as follows:
"Probably" effective: For the treatment of vulvovaginal candidiasis.
Final classification of the less-than-effective indications requires further investigation.

Contraindications: None known. **Precautions:** Cases of sensitization and irritation have been reported. When noted the drug should be discontinued. **Dosage:** One applicatorful intravaginally twice daily for a period of 14 days. Course of therapy may be repeated if necessary.

Ortho Pharmaceutical Corporation · Raritan, New Jersey 08869

Ortho

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CONTINUING EDUCATION COURSES

PEDIATRICS: Problems of Office Pediatrics will be studied during the March 15-16 pediatric postgraduate course being sponsored by the Pediatric Alumni Foundation, Inc., and the Department of Pediatrics, UT Medical Branch at Galveston. Guest faculty will be Dr. Louis Gluck, chief, division of neonatology, University of California—San Diego, La Jolla; Dr. John B. Reinhart, director, department of psychiatry, Children's Hospital of Pittsburgh; and Dr. Victor C. Vaughan, III, professor and chairman, department of pediatrics, Temple University School of Medicine, Philadelphia.

The program is acceptable for 12 prescribed hours by the AAFP. Presentation topics are chronic diarrhea, respiratory distress syndrome and intrauterine development, early diagnosis of behavioral deviation, office care in rheumatic fever, milk allergy, and pitfalls in management of asthma. Contact: Dr. Lillian H. Lockhart, Associate Professor, Department of Pediatrics, UT Medical Branch at Galveston, Galveston 77550.

HYPERLIPIDEMIA: "The Diagnosis and Significance of Hyperlipidemia" will be presented March 1-2 by the American Heart Association's Council on Clinical Cardiology; Baylor College of Medicine; and Methodist Hospital, Houston. The course is designed for internists and cardiologists and will attempt to provide an understanding of the pathophysiology of both primary and secondary hyperlipoproteinemia. The diagnostic and therapeutic approach to the patient with hyperlipoproteinemia, and the clinical significance of hyperlipoproteinemia and indications for therapy will be stressed. Contact: Robert Davenport, B501 Fondren-Brown Bldg., The Methodist Hospital, Houston 77025.

NEOPLASIA: "Immunological Aspects of Neoplasia" is the subject of the 26th Annual Symposium on Fundamental Cancer Research, scheduled for March 6-9 at the Shamrock Hilton Hotel in Houston. Symposium topics include the role of immunological factors in etiology and pathogenesis of cancer, immunological deficiency in cancer, cell surface antigen structure and function, tumor antigens, tumor immunity (including cell-mediated, humoral and blocking), immunodiagnosis, and immunotherapy. The symposium is sponsored by UT M.D. Anderson Hospital and Tumor Institute at Houston. Dr. Evan M. Hersh is chairman, and may be contacted for more information.

CARDIOLOGY, CARDIAC SURGERY, ENDOCRINOLOGY: Waco Heart Association, McLennan County Medical Society, and McLennan County Family Practice Residency Program are sponsoring courses on cardiology, cardiac surgery, and endocrinology, March 3-4 at Ridgewood Country Club in Waco. The courses are acceptable for 8 hours credit by the AAFP; registration fee is $15. For further details, contact Dr. William N. Roddy, 2323 Columbus Ave., Waco 76702.

MALIGNANT NEOPLASMS: The Wadley Symposium on Malignant Neoplasms is scheduled for March 10 in Dallas. Sponsored by Wadley Institutes of Molecular Medicine, the symposium will feature guest speakers, Dr. M. Vera Peters, senior radiotherapist at the Ontario Cancer Institute, and consultant in radiotherapy at Women's College Hospital, Toronto; and Dr. Donald W. Kufe, department of human genetics and development, Columbia University College of Physicians and Surgeons, New York. "Individualization of Therapy in Hodgkin's Disease" will be presented by Dr. Peters, and Dr. Kufe will discuss "Relevance of RNA Tumor Viruses in Human Cancer." Other topics are radiologic evaluation of cancer, treatment of acute granulocytic leukemia, combination chemotherapy of disseminated cancer, and experience with platinum compounds in the treatment of malignant disease. Registration fee for the symposium is $15. Contact: Dr. Amanullah Khan, Chairman, Department of Immunotherapy, Wadley Institutes of Molecular Medicine, 9000 Harry Hines Blvd., Dallas 75235.

CANCER: "Current Controversies in the Management of Cancer Patients" is the theme of the Seventh Annual Clinical Cancer Conference being sponsored by UT Health Science Center at Dallas. The Conference is scheduled for March 11 at the medical school. Topics to be presented are "Biopsy of Suspected Cancer—Open or Needle?," "Treatment of Early Breast Cancer—Simple or Radical?," "Radiation Therapy for Carcinoma of the Breast—For Cure or Palliation?," "Management of a Lump in the Neck—Biopsy or Work-up for Primary Lesion?," "Head and Neck Cancer—Operate or Irradiate?," and "Thyroid Nodules—Remove or Observe?" Registration fee for the symposium is $10. Contact: Dr. John S. Chapman, Assistant Dean for Postgraduate Education, UT Health Science Center at Dallas, 5323 Harry Hines Blvd., Dallas 75235.

TRAUMA: A course entitled "Current Management of Trauma" will be presented at Brooke General Hospital, Fort Sam Houston, March 5-9. The course will cover anesthetic considerations of trauma, recurrent management of burns, post-traumatic pulmonary insufficiency, injury of the heart and great vessels, liver trauma, neurosurgical trauma, trauma in childhood, nutritional support of the injured, and musculoskeletal injuries.

The course is accredited for 32 hours by the AAFP and there is no tuition fee. Contact: Dr. Richard E. George, COL, MC, Chief, Department of Surgery, Brooke General Hospital, Fort Sam Houston 78234.

BASIC SCIENCE: UT Health Science Center at Houston, Graduate School of Biomedical Sciences and Division of Continuing Education, announce the 10th Symposium on Biomathematics and Computer Science in the Life Sciences to be presented in Houston, March 29-31. Point processes in neurophysiology and medicine; dissipative structures: a reference state for biological systems; models of concentration in kidney transport; statistical aspects of survival distribution; demographic models; and systems management in the health sciences will be discussed. Contact: Dr. Grant Taylor, Dean, Division of Continuing Education, UT Health Science Center at Houston, PO Box 20367, Houston 77025.

MORE CONTINUING EDUCATION COURSES

APRIL

Evaluation of Trauma Patients. Sponsored by UT Health Science Center at San Antonio, April 13-14, San Antonio. Fee: $50. Credit: 12 hours, AAFP and Category 1, AMA Phy. Recog. Award. Contact: Dr. Paul Cutler, Associate Dean for Clinical Affairs, UT Health Science Center at San Antonio, 7703 Floyd Curl Dr., San Antonio 78284.

Ophthalmology for Family Physicians. Sponsored by Texas Society for the Prevention of Blindness, April 14, Houston. Fee: $10. Contact: Joanne Allen, 3617 Fannin, Houston 77004, Prog. Dir.

Management of the Critically Ill Cardiac Patient. Sponsored by Department of Medicine, Baylor College of Medicine; Methodist Hospital of Houston; American College of Cardiology, April 4-6, Houston. Fee: $120, ACC members; $170, nonmembers. Contact: Dr. Henry D. McIntosh, Professor and Chairman, Department of Medicine, Baylor College of Medicine, Texas Medical Center, Houston 77025.

Seminar in Mental Health Problems. Sponsored by Texas Department of Mental Health and Mental Retardation, April 3, Austin State Hospital; April 10, Terrell State Hospital; April 17, Wichita Falls State Hospital; April 24, Big Spring State Hospital. Contact: Dr. Ira Tunnell, Deputy Commissioner for Mental Health Services, Texas Department of Mental Health and Mental Retardation, Box 12668, Capitol Station, Austin 78711.

Recent Advances in Managing Common Problems in Obstetrics and Gynecology. Sponsored by UT Health Science Center at San Antonio, April 28-29, San Antonio. Fee: $100. Credit: 8 hours, AAFP and Category 1, AMA Phy. Recog. Award. Contact: Dr. Paul Cutler, Associate Dean for Clinical Affairs, UT Health Science Center at San Antonio, 7703 Floyd Curl Dr., San Antonio 78284.

Common Eye Problems in Family Practice. Sponsored by UT Health Science Center at San Antonio, April 7-8, Austin. Fee: $50. Credit: 10 hours, AAFP and Category 1, AMA Phy. Recog. Award. Contact: Dr. Paul Cutler, Associate Dean for Clinical Affairs, UT Health Science Center at San Antonio, 7703 Floyd Curl Dr., San Antonio 78284.

Acute Respiratory Diseases. Sponsored by UT Health Science Center at Houston, April 24-May 15, Houston. Contact: Dr. Grant Taylor, Dean, Division of Continuing Education, UT Health Science Center at Houston, PO Box 20367, Houston 77025.

MAY

Facial Palsy: Diagnosis and Management. Sponsored by UT Health Science Center at San Antonio, May 19, San Antonio. Fee: $50. Credit: 7 hours, AAFP and Category 1, AMA Phy. Recog. Award. Contact: Dr. Paul Cutler, Associate Dean for Clinical Affairs, UT Health Science Center at San Antonio, 7703 Floyd Curl Dr., San Antonio 78284.

The Rheumatic Diseases: Clinical and Immunological Aspects. Sponsored by American College of Physicians, May 16-18, Dallas. Fee: $80, ACP members; $125, nonmembers. Contact: Dr. Morris Ziff, Professor of Internal Medicine, UT Health Science Center at Dallas, 5323 Harry Hines Blvd., Dallas 75235.

Principles of Supportive Psychotherapy. Sponsored by Department of Psychiatry, UT Health Science Center at Dallas, May 8-29, Dallas. Fee: $45. Credit: 8 hours, AAFP. Contact: Dr. John S. Chapman, Assistant Dean for Postgraduate Education, UT Health Science Center at Dallas, 5323 Harry Hines Blvd., Dallas 75235.

Current Trends in Cardiovascular Disease. Sponsored by Cardiology Service, Brooke General Hospital, May 16-18, Brooke Army Medical Center, Fort Sam Houston. Contact: Dr. George M. McGranahan, Jr., COL, MC, Chief, Cardiology Service, Brooke General Hospital, Fort Sam Houston 78234.

Chemotherapy and Immunotherapy of Solid Tumors. Sponsored by UT Health Science Center at San Antonio, May 18-19, San Antonio. Credit: 10½ hours, AAFP and Category 1, AMA Phy. Recog. Award. Contact: Dr. Paul Cutler, Associate Dean for Clinical Affairs, UT Health Science Center at San Antonio, 7703 Floyd Curl Dr., San Antonio 78284.

Endocrine Vignettes. Sponsored by UT Health Science Center at Houston, April 4-25, Houston. Fee: $25. Contact: Dr. Grant Taylor, Dean, Division of Continuing Education, UT Health Science Center at Houston, PO Box 20367, Houston 77025.

Clinical Neurology. Sponsored by UT Health Science Center at Houston, March 13-April 10, Houston. Fee: $35. Contact: Dr. Grant Taylor, Dean, Division of Continuing Education, UT Health Science Center at Houston, PO Box 20367, Houston 77025.

Survey of Drug Therapy. Sponsored by Veterans Administration Hospital, May 22-24, Big Spring. Contact: Dr. H. C. Ernsting, Chief of Staff, Veterans Administration Hospital, 2400 S. Gregg St., Big Spring 79720.

JUNE

What's New in Clinical Practice. Sponsored by South Plains Chapter, Texas Academy of Family Physicians and Texas Tech University School of Medicine, June 23, Lubbock. Contact: Walter R. Gault, Texas Tech University School of Medicine, PO Box 4569, Lubbock 79409.

Seventh Annual Postgraduate Pediatric Seminar. Sponsored by Department of Pediatrics, UT Health Science Center at Dallas, June 8-9, Dallas. Fee: $15. Credit: 10 hours, AAFP. Contact: Dr. John S. Chapman, Assistant Dean for Postgraduate Education, UT Health Science Center at Dallas, 5323 Harry Hines Blvd., Dallas 75235.

"For generations my family has insisted on Donnagel®-PG," says active young matron Mrs. T. Farnsworth Lipp (of the Upper Lipps), shown here with her charming son. "All the benefits of paregoric—without the unpleasant taste, don't you know? And Junior thinks Donnagel-PG tastes so much like bananas that I never worry about a slip between spoon and Lipp."

A Matter of Taste

With or without a silver spoon, a most tasteful solution in treating acute, non-specific diarrheas: all the benefits of paregoric, without the unpleasant taste. Donnagel®-PG treats accompanying cramping, tenesmus, and nausea as well as the diarrhea itself. Instead of unpleasant-tasting paregoric, it contains the therapeutic equivalent, powdered opium, to promote the production of formed stools and lessen the urge. And it provides the demulcent-detoxicant effects of kaolin and pectin, plus the antispasmodic benefits of belladonna alkaloids. And a good banana flavor to baby any taste.

Donnagel®-PG

Donnagel with paregoric equivalent

℞ Available on oral prescription or without prescription under limited circumstances as modified by applicable state law.

Each 30 cc. contains: Kaolin, 6.0 g.; Pectin, 142.8 mg.; Hyoscyamine sulfate, 0.1037 mg.; Atropine sulfate, 0.0194 mg.; Hyoscine hydrobromide, 0.0065 mg.; Powdered opium, USP, 24.0 mg. (equivalent to paregoric 6 ml.) (Warning: may be habit forming); Sodium benzoate (preservative), 60.0 mg.; Alcohol, 5%. A.H. Robins Company, Richmond, Virginia 23220

A·H·ROBINS

IN
WINTER
COUGHS
2102
Robitussin
Cough Calmers
Robitussin A-C

CLEAR THE TRACT WITH THE ROBITUSSIN® LINE

The coughing season is here again. Time to rely on the four Robitussins and Cough Calmers to help clear the lower respiratory tract. All contain glyceryl guaiacolate, the efficient expectorant that works systemically to help increase the output of lower respiratory tract fluid. The enhanced flow of less viscid secretions soothes the tracheobronchial mucosa, promotes ciliary action, and makes thick, inspissated mucus less viscid and easier to raise. Available on your prescription or recommendation.

For coughs of colds and "flu"

ROBITUSSIN®

Each 5 cc. contains:
Glyceryl guaiacolate ..... 100 mg.
Alcohol, 3.5%

For unproductive allergic coughs

ROBITUSSIN A-C® ℂ

Each 5 cc. contains:
Glyceryl guaiacolate ..... 100 mg.
Pheniramine maleate ..... 7.5 mg.
Codeine phosphate ..... 10.0 mg.
(warning: may be habit forming)
Alcohol, 3.5%

Non-narcotic for 6-8 hr. cough control

ROBITUSSIN-DM®

Each 5 cc. contains:
Glyceryl guaiacolate ..... 100 mg.
Dextromethorphan hydrobromide ..... 15 mg.
Alcohol, 1.4%

Robitussin-DM in solid form for "coughs on the go"

COUGH CALMERS®

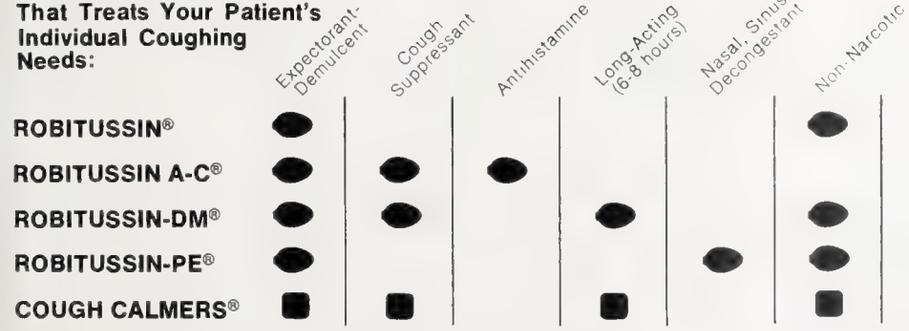
Each Cough Calmer contains:
Glyceryl guaiacolate ..... 50 mg.
Dextromethorphan hydrobromide ..... 7.5 mg.

Relieves cough, clears sinuses and nasal passages—keeps them "drip-dry" but not bone dry

ROBITUSSIN-PE®

Each 5 cc. contains:
Glyceryl guaiacolate ..... 100 mg.
Phenylephrine hydrochloride ..... 10 mg.
Alcohol, 1.4%

Select the Robitussin® "Clear-Tract" Formulation That Treats Your Patient's Individual Coughing Needs:



Keep this handy chart as a guide in selecting the formula that provides the benefits you want for your patient.

A·H·ROBINS

A. H. Robins Company, Richmond, Virginia 23220

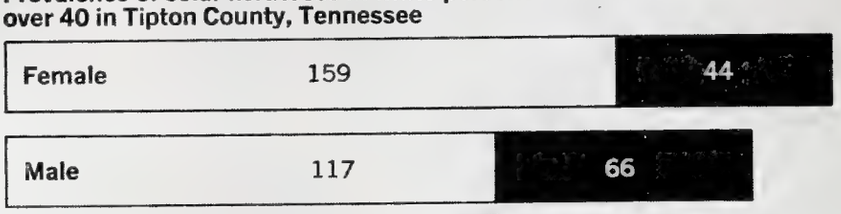
What it means to live and work i Tipton County, Tennessee

Persons who are white and over 40 have one chance in four of having solar keratoses... which may be premalignant

An epidemiologic study* conducted in Tipton County, Tennessee, revealed that 28.5% of white persons over 40 had solar keratoses; most had multiple lesions. Cluster sampling projected an estimated prevalence of 32.5% for white males and 19.5% for white females.

Though this is an unusually high percentage of affected persons, these lesions can occur in any white population, wherever people work or play out of doors.

Prevalence of solar keratoses in white persons over 40 in Tipton County, Tennessee



*Data on file, Hoffmann-La Roche Inc., Nutley, New Jersey.

Solar, actinic, senile keratoses

Called by many names, the typical lesion is flat or slightly elevated, brownish or reddish in color, papular, dry, adherent, rough, sharply defined; usually multiple lesions, chiefly on exposed portions of the skin.

Sequence/selectivity of response

Erythema in areas of lesions may begin after several days of therapy; height of reaction (only in affected areas)* usually occurs within two weeks, declining after discontinuation of therapy. Since this response is so predictable, lesions that do not respond should be biopsied to rule out the presence of a frank neoplasm.

Cosmetic results

Cosmetic results are highly favorable. Incidence of scarring is low—important with multiple facial lesions. Efudex should be applied with care near the eyes, nose and mouth.

5% cream–a Roche exclusive

Only Roche formulates the 5% cream... high in patient acceptability... high in clinical efficacy, especially for lesions of hands and forearms... economical.

Before prescribing, please consult complete product information, a summary of which follows:
Indications: Multiple actinic or solar keratoses.
Contraindications: Patients with known hypersensitivity to any of its components.
Warnings: If occlusive dressing used, may increase inflammatory reactions in adjacent normal skin. Avoid prolonged exposure to ultraviolet rays. Safe use in pregnancy not established.
Precautions: If applied with fingers, wash hands immediately. Apply with care near eyes, nose and mouth. Lesions failing to respond or recurring should be biopsied.
Adverse Reactions: Local—pain, pruritus, hyperpigmentation and burning at application site most frequent; also dermatitis, scarring, soreness and tenderness. Also reported—insomnia, stomatitis, suppuration, scaling, swelling, irritability, medicinal taste, photosensitivity, lacrimation, leukocytosis, thrombocytopenia, toxic granulation and eosinophilia.
Dosage and Administration: Apply sufficient quantity to cover lesion twice daily with nonmetal applicator or suitable glove. Usual duration of therapy is 2 to 4 weeks.
How Supplied: Solution, 10-ml drop dispensers—containing 2% or 5% fluorouracil on a weight/weight basis, compounded with propylene glycol, tris(hydroxymethyl)aminomethane, hydroxypropyl cellulose, parabens (methyl and propyl) and disodium edetate.
Cream, 25-Gm tubes—containing 5% fluorouracil in a vanishing cream base consisting of white petrolatum, stearyl alcohol, propylene glycol, polysorbate 60 and parabens (methyl and propyl).

an alternative to conventional therapy

Efudex®
(fluorouracil)
cream/solution

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Roche Laboratories
Division of Hoffmann-La Roche Inc.
Nutley, N.J. 07110

Information for authors

Material for *Texas Medicine* may be sent to the Managing Editor, 1801 North Lamar Blvd., Austin 78701. It must be offered solely to this journal. Each paper is reviewed by a consultant specialist and an editorial board, and is accepted or rejected on the basis of its individual merit and the availability of other material.

Manuscripts should be typed double-spaced with ample margins on firm paper. Carbons are unacceptable, but the author should keep a copy.

The *title* should include the words most suitable for indexing the article in "Index Medicus," should stress the main point, and should be brief. Subtitles should not be connected grammatically with the main title.

The *author's names* and degrees should follow the title, and their mailing addresses should be listed at the end of the article.

The *text* should be narrative with complete sentences, *few abbreviations*, and logical subheading. For *spelling and usage* the editors follow "Dorland's Illustrated Medical Dictionary," 24th edition, and "Webster's Third New International Dictionary, Unabridged." *Quotations* must give credit to both author and source. A concise *introductory summary* is required.

Reference lists should contain in this order (1) author's last name, initials, (2) title of article or book, (3) name of journal, (4) volume and inclusive page numbers, written 33:156-160, (5) year. For books, the title should be followed by place of publication, name of publisher, and year.

Illustrations should be black and white drawings or positive photographs, with neat, uniform, fairly large lettering. A label pasted to the back of each illustration should indicate its number, top, author's name, and title of article in brief. *Legends* should be in complete sentences, numbered, and typed on a separate sheet. *Color illustrations* are authorized if they are of special value.

Tables should be typed on separate sheets. Column headings should show points of similarity; side headings, points of difference.

Permission should be obtained from the publishers and the authors for any previously published material (extensive textual matter, illustrations, tables) used. Short verbatim quotations in the text may be used without permission, but should be quoted exactly with the source credited in the bibliography. Copies of permission letters should be submitted with the manuscript.

All material is subject to *editing*, but authors receive typescripts to check before publication. Prompt return of typescripts to *Texas Medicine* office avoids delay in publication. After the article is sent to the printer, only minimal revision may be made.

Reprints are available directly from the printer at an established schedule of costs. Authors automatically receive order blanks when their articles are published.

Editorials should be prepared in the same general manner, and should be written in clear, concise language. They should be 300-500 words in length (about two to three pages typed with double spacing.)

Contributions to the news section should be sent to the Editorial Offices, 1801 N. Lamar Blvd., Austin 78701, by the 5th of the month preceding the month of publication.

PUBLICATION INFORMATION

Texas Medicine is published monthly by the Texas Medical Association.

Second Class Postage paid at Austin, Texas, with additional entry at Fort Worth, Texas, under act of March 3, 1879.

Contributions, previously unpublished, are welcomed for review. News and other items should be sent to the Editorial Offices by the 5th of the month preceding the month of publication. All contributions are sent at the owner's risk.

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Antiminth (pyrantel pamoate) Oral Suspension

Actions. Antiminth (pyrantel pamoate) has demonstrated anthelmintic activity against *Enterobius vermicularis* (pinworm) and *Ascaris lumbricoides* (roundworm). The anthelmintic action is probably due to the neuromuscular blocking property of the drug.

Antiminth is partially absorbed after an oral dose. Plasma levels of unchanged drug are low. Peak levels (0.05-0.13μg/ml.) are reached in 1-3 hours. Quantities greater than 50% of administered drug are excreted in feces as the unchanged form, whereas only 7% or less of the dose is found in urine as the unchanged form of the drug and its metabolites.

Indications. For the treatment of ascariasis (roundworm infection) and enterobiasis (pinworm infection).

Warnings. *Usage in Pregnancy:* Reproduction studies have been performed in animals and there was no evidence of propensity for harm to the fetus. The relevance to the human is not known.

There is no experience in pregnant women who have received this drug.

Precautions. Minor transient elevations of SGOT have occurred in a small percentage of patients. Therefore, this drug should be used with caution in patients with pre-existing liver dysfunction.

Adverse Reactions. The most frequently encountered adverse reactions are related to the gastrointestinal system.

Gastrointestinal and hepatic reactions: anorexia, nausea, vomiting, gastralgia, abdominal cramps, diarrhea and tenesmus, transient elevation of SGOT.

CNS reactions: headache, dizziness, drowsiness, and insomnia. Skin reactions: rashes.

Dosage and Administration. *Children and Adults:* Antiminth Oral Suspension (50 mg. of pyrantel base/ml.) should be administered in a single dose of 11 mg. of pyrantel base per kg. of body weight (or 5 mg./lb.); maximum total dose 1 gram. This corresponds to a simplified dosage regimen of 1 cc. of Antiminth per 10 lb. of body weight. (One teaspoonful = 5 cc.)

Antiminth (pyrantel pamoate) Oral Suspension may be administered without regard to ingestion of food or time of day; and purging is not necessary prior to, during, or after therapy. It may be taken with milk or fruit juices. Because of limited data on repeated doses, no recommendations can be made.

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Rondomycin®
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CONTRAINDICATIONS: Hypersensitivity to any of the tetracyclines.
WARNINGS: Tetracycline usage during tooth development (last half of pregnancy to eight years) may cause permanent tooth discoloration (yellow-gray-brown), which is more common during long-term use but has occurred after repeated short-term courses. Enamel hypoplasia has also been reported. **Tetracyclines should not be used in this age group unless other drugs are not likely to be effective or are contraindicated.**
Usage in pregnancy. (See above **WARNINGS** about use during tooth development.)
Animal studies indicate that tetracyclines cross the placenta and can be toxic to the developing fetus (often related to retardation of skeletal development). Embryotoxicity has also been noted in animals treated early in pregnancy.
Usage in newborns, infants, and children. (See above **WARNINGS** about use during tooth development.)
All tetracyclines form a stable calcium complex in any bone-forming tissue. A decrease in fibula growth rate observed in prematures given oral tetracycline 25 mg/kg every 6 hours was reversible when drug was discontinued.
Tetracyclines are present in milk of lactating women taking tetracyclines
To avoid excess systemic accumulation and liver toxicity in patients with impaired renal function, reduce usual total dosage and, if therapy is prolonged, consider serum level determinations of drug. The antianabolic action of tetracyclines may increase BUN. While not a problem in normal renal function, in patients with significantly impaired function, higher tetracycline serum levels may lead to azotemia, hyperphosphatemia, and acidosis.
Photosensitivity manifested by exaggerated sunburn reaction has occurred with tetracyclines. Patients apt to be exposed to direct sunlight or ultraviolet light should be so advised, and treatment should be discontinued at first evidence of skin erythema.
PRECAUTIONS: If superinfection occurs due to overgrowth of nonsusceptible organisms, including fungi, discontinue antibiotic and start appropriate therapy.
In venereal diseases, when coexistent syphilis is suspected, perform darkfield examination before therapy, and serologically test for syphilis monthly for at least four months.
Tetracyclines have been shown to depress plasma prothrombin activity; patients on anticoagulant therapy may require downward adjustment of their anticoagulant dosage.
In long-term therapy, perform periodic organ system evaluations (including blood, renal, hepatic)
Treat all Group A beta-hemolytic streptococcal infections for at least 10 days.
Since bacteriostatic drugs may interfere with the bactericidal action of penicillin, avoid giving tetracycline with penicillin
ADVERSE REACTIONS: Gastrointestinal (oral and parenteral forms): anorexia, nausea, vomiting, diarrhea, glossitis, dysphagia, enterocolitis inflammatory lesions (with monilial overgrowth) in the anogenital region
Skin: maculopapular and erythematous rashes; exfoliative dermatitis (uncommon). Photosensitivity is discussed above (See **WARNINGS**)
Renal toxicity: rise in BUN, apparently dose related (See **WARNINGS**)
Hypersensitivity: urticaria, angioneurotic edema, anaphylaxis, anaphylactoid purpura, pericarditis, exacerbation of systemic lupus erythematosus
Bulging fontanels, reported in young infants after full therapeutic dosage, have disappeared rapidly when drug was discontinued.
Blood: hemolytic anemia, thrombocytopenia, neutropenia, eosinophilia
Over prolonged periods, tetracyclines have been reported to produce brown-black microscopic discoloration of thyroid glands; no abnormalities of thyroid function studies are known to occur.
USUAL DOSAGE: Adults—600 mg daily, divided into two or four equally spaced doses. More severe infections: an initial dose of 300 mg followed by 150 mg every six hours or 300 mg every 12 hours. Gonorrhea: In uncomplicated gonorrhea, when penicillin is contraindicated, 'Rondomycin' (methacycline HCl) may be used for treating both males and females in the following clinical dosage schedule: 900 mg initially, followed by 300 mg q.i.d. for a total of 5 4 grams.
For treatment of syphilis, when penicillin is contraindicated, a total of 18 to 24 grams of 'Rondomycin' (methacycline HCl) in equally divided doses over a period of 10-15 days should be given. Close follow-up, including laboratory tests, is recommended
Eaton Agent pneumonia: 900 mg daily for six days.
Children—3 to 6 mg/lb/day divided into two to four equally spaced doses.
Therapy should be continued for at least 24-48 hours after symptoms and fever have subsided
Concomitant therapy: Antacids containing aluminum, calcium or magnesium impair absorption and are contraindicated. Food and some dairy products also interfere. Give drug one hour before or two hours after meals. Pediatric oral dosage forms should not be given with milk formulas and should be given at least one hour prior to feeding
In patients with renal impairment (see **WARNINGS**), total dosage should be decreased by reducing recommended individual doses or by extending time intervals between doses
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SUPPLIED: 'Rondomycin' (methacycline HCl): 150 mg and 300 mg capsules; syrup containing 75 mg/5 cc methacycline HCl.

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Isometric exercise and the cardiac patient

Charles B. Mullins, MD; Gunnar Blomqvist, MD

Isometric exercise causes a rapid increase in systolic and diastolic arterial blood pressure with only a modest increase in heart rate and cardiac output. A simple handgrip procedure has been used to explore the effects of isometric exercise in normal subjects and in patients with various forms of heart disease. The handgrip test is performed easily during cardiac catheterization. Data from a series of 22 patients indicate that ventricular function curves derived from the test may be used to identify patients with abnormal left ventricular end-diastolic pressure at rest but normal ventricular function, and patients with normal pressures but abnormal ventricular function. The handgrip test also may be a useful bedside procedure. A patient who develops an atrial gallop during isometric exercise is likely to have depressed left ventricular function.

Heavy isometric exercise in cardiac patients is associated with a high incidence of potentially dangerous ventricular arrhythmias, particularly in patients with severe myocardial or coronary artery disease.

The circulatory response to dynamic or isotonic exercise such as walking, running and bicycling has been characterized in detail both in normal subjects and in patients with various forms of heart disease. Many activities during daily life involve primarily static or isometric exercise (pulling or pushing against resistance, carrying heavy objects) but until quite recently little was known about the physiology of isometric exercise. A series of studies by Lind et al[1] has demonstrated that isometric exercise produces a rapid increase in systolic and diastolic arterial blood pressure and a modest increase in heart rate and cardiac output. Diastolic blood pressure levels exceeding 120 mm Hg are recorded frequently in normotensive subjects during heavy, sustained isometric exercise. By contrast, dynamic exercise causes a marked increase in heart rate and cardiac output, a moderate increase in systolic blood pressure and little or no increase in diastolic pressure. The magnitude of the blood pressure elevation during isometric exercise appears to be determined by the relative force (developed force as a fraction or percentage of individually determined maximal force) of contraction rather than by absolute force or by the amount of active muscle mass. As a consequence, the blood pressure tends to increase to the same extent during a sustained isometric contraction at one-half maximal strength whether the subject is a sedentary man or a weight lifter. Furthermore, the absolute force developed by contractions of equal relative strength of the forearms or thigh muscles is vastly different but the blood pressure response is similar.

Blood pressures increase progressively with increasing relative force. Typically, a forearm contraction or handgrip held at 50% of the force of a maximal voluntary contraction (50% MVC) results in systolic and diastolic blood pressure increases of 40 to 50 mm Hg. The heart rate increases by 20 to 30 beats/minute. Stroke volume during low-level isometric effort in normal subjects usually remains equal to that at rest but tends to decrease slightly at levels of 50% MVC. Thus, the increase in cardiac output is proportional to the increase in heart rate. Systemic vascular resistance shows little change. There is evidence to suggest that the circulatory changes are largely mediated by a neural reflex mechanism, primarily by vagal withdrawal.[1,2]

We thought that the results of the basic studies by Lind et al had important clinical implications. We have, in a series of

studies, explored the circulatory effects of isometric exercise in patients with various forms of heart disease and also attempted to take advantage of the several features that make isometric exercise an attractive stress test procedure for evaluation of circulatory function which is an easily standardized procedure that requires a minimum of equipment.

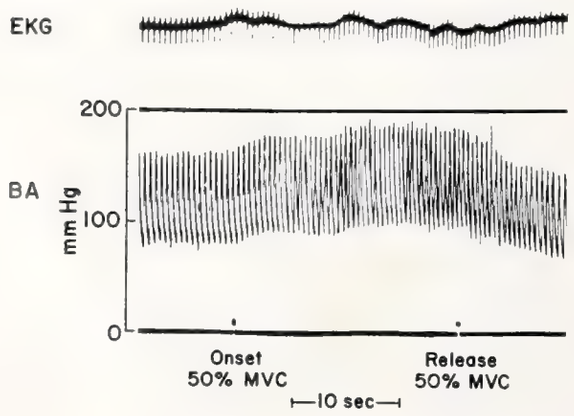
We have used a sustained forearm contraction, a handgrip procedure. The patient's maximal handgrip strength is measured with a simple spring-loaded hand dynamometer calibrated in kilograms. The patient is then asked to perform a sustained handgrip at various levels, usually at 25 and 50% of his maximum.

Noninvasive Techniques

The response to a sustained isometric forearm contraction was studied with noninvasive techniques in 5 normals and in 11 patients with coronary artery disease.[3] Measurements were taken at rest and during periods of contraction to 10, 25 and 50% of the force developed during maximal voluntary contraction (MVC) using a handgrip dynamometer. Mean blood pressure at rest was 109/81 mm Hg for normals and 133/90 mm Hg for patients; at 50% MVC it was 170/127 for normals and 200/145 mm Hg for patients. Mean heart rate in beats per minute at rest was 66 for normals and 63 for patients and at 50% MVC was 96 for normals and 83 for patients. At rest, left ventricular ejection time (LVET) was 290 msec for normals and 295 for patients, while at 50% MVC, LVET was 250 msec for normals and 260 for patients. Preejection period (PEP) at rest was 118 msec for normals and 105 for patients; at 50% MVC the PEP was 124 msec for normals and 123 for patients.

This noninvasive study demonstrated that it was possible to reproduce in a series of cardiac patients the response described in normal subjects by Lind et al.[1] The change in preejection period tended to be greater among the patients with heart disease, but analysis of individual data showed considerable overlap between patients and controls. Nevertheless, the results of this study encouraged us to use the handgrip stress in the catheterization laboratory using direct measurements.

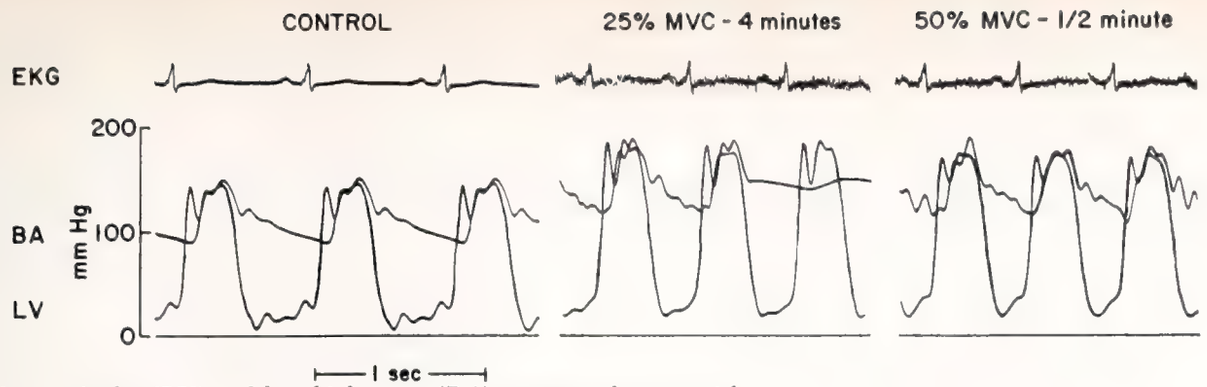
1. Brachial artery (BA) pressure change with onset and release of 50% maximum voluntary isometric handgrip contraction (MVC).



Direct Measurements

Conventional hemodynamic measurements and angiographic procedures for evaluation of left ventricular function at rest can assess the mechanical function of heart valves successfully, but frequently fail to define adequately the function of the myocardium and its response to stress.

Previous methods of stress testing, using various procedures to increase left ventricular filling pressure, such as rapid blood transfusions, angiotensin infusion, and bicycle exercise, are often difficult and inconvenient in the usual cardiac catheteri-



2. Left ventricular (LV) and brachial artery (BA) pressure changes with 25% and 50% MVC.

zation setting. The handgrip procedure is easily performed and requires no bulky equipment. Furthermore, onset and offset of the hemodynamic response are rapid, as illustrated in Fig 1. Within five or six beats after the onset of a handgrip contraction at the level of 50% MVC, the systolic aortic pressure has risen 20 mm Hg. The fall in blood pressure after release of the contraction is equally rapid.

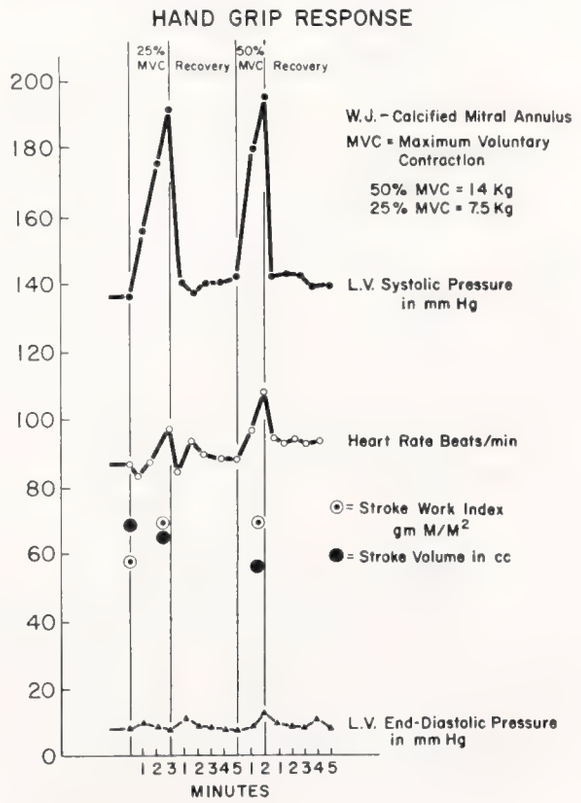
Exploratory studies of the handgrip test in the catheterization laboratory demonstrated a significant effect on left ventricular hemodynamics as is evident in Fig 2. Progressive increases in systolic pressure and left ventricular end-diastolic pressure occur with increasing isometric work loads (25 and 50% of MVC). It soon became evident that the patients tended to conform to either of the two response patterns illustrated by data from two different patients (Figs 3 and 4).

One patient had a calcified mitral annulus and a relatively normal left ventricular function (Fig 3). The other patient had a cardiomyopathy and left ventricular dysfunction (Fig 4). The responses of these two patients to the stress of the handgrip have several features in common, but differ in some important respects. Both patients' systolic blood pressures rose at least 40 mm Hg. Heart rate increased in both. Both patients had a normal cardiac output at rest. However, as can be seen from the graph, in the patient with left ventricular dysfunction resulting from cardiomyopathy, the stroke volume fell during the stress of the handgrip, whereas the patient with relatively normal left ventricular function had little change in the stroke volume during handgrip. In addition, left ventricular end-diastolic pressure rose dramatically in the patient with cardiomyopathy; in fact, it almost doubled, whereas the left ventricular end-diastolic pressure in the patient with a normal left ventricle changed little and remained within the normal range. The fact that two different response patterns could be defined suggested that the handgrip test may be used to evaluate left ventricular muscle function in the setting of valvular disease and to uncover latent left ventricular dysfunction in arteriosclerotic heart disease in patients who have normal hemodynamics at rest.

A systematic study was performed in 22 patients with various forms of heart disease, excluding patients with mitral or aortic regurgitation.[4] The data obtained during the handgrip test were used to construct left ventricular function curves.

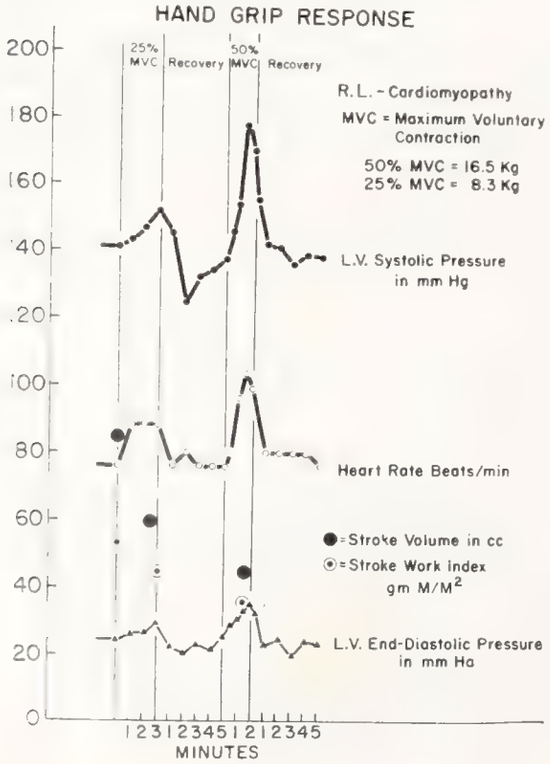
Ventricular function curves relating a range of filling pressures, usually obtained by blood volume expansion or angiotensin

3. Hemodynamics during 25% and 50% MVC in a patient with normal left ventricular function.



infusion, to stroke work have been useful in delineating normal or abnormal response to stress in patients with both normal and abnormal resting hemodynamics. Ventricular function curves were developed using stroke work index (SWI) and the left ventricular end-diastolic pressure (LVEDP). Ventricular function curves were used to determine a normal left ventricular response to handgrip (an increase in SWI with a small increase in LVEDP) or an abnormal response (a decrease or no change in SWI with a large increase in LVEDP). The handgrip response curves were correlated with other clinical and hemodynamic findings such as the functional class as defined by the New York Heart Association, left ventricular ejection fraction (stroke volume as a fraction of end-diastolic volume, abnormal $< 40\%$) and left ventricular end-diastolic pressure (abnormal > 12 mm Hg). The results are in Fig 5.

4. Hemodynamics during 25% and 50% MVC in a patient with abnormal left ventricular function due to cardiomyopathy.



Of particular interest is that several patients had abnormal hemodynamics at rest but normal ventricular function according to the handgrip test and the measurement of ejection fraction, while other patients had normal resting hemodynamics but an abnormal ventricular function under isometric stress and abnormal ejection fraction indicating the ability of isometric stress to define normal and abnormal ventricular function with variable resting hemodynamic measurements. The data in Fig 5 provide strong support for the validity of the handgrip procedure as a stress test.

Of clinical interest in this study was the finding that left ventricular end-diastolic pressure increased to 40 and 50 mm Hg with handgrip in some patients, which suggests that isometric exercise should be avoided in patients with severe heart disease.

Atrial Gallops

Atrial gallops occur in a variety of cardiac conditions and often are associated with hypertension, arteriosclerotic heart disease, and cardiomyopathies, but have been reported to be of little etiologic or diagnostic significance. However, the development of an atrial gallop with stress may well be of diagnostic and prognostic significance. We observed nine patients who had and sustained an atrial gallop with isometric stress and six patients who developed atrial gallops with isometric stress. These patients had a variety of diagnoses, predominantly cardiomyopathies and arteriosclerotic heart disease, equally distributed between both groups. The distribution of functional class according to the New York Heart Association also was similar in both groups.[5]

Analysis of the ventricular function

curves using SWI and LVEDP revealed a significant difference between the two groups. In the sustained atrial gallop group, ie, patients with persistent atrial gallops, the left ventricular function curve was only slightly depressed when compared with similar curves obtained from patients with no evidence of left ventricular dysfunction or atrial gallops. However, in those patients who developed atrial gallops with isometric stress, the ventricular function curves were clearly depressed indicating significant left ventricular dysfunction.

Thus, isometric stress testing (handgrip) may be useful bedside tool in elucidating depressed left ventricular function, ie, those patients who develop an atrial gallop with sustained handgrip probably have significantly depressed left ventricular function.

Arrhythmias

Isometric exercise is frequently recommended for physical conditioning and many devices are sold by advertisements promoting their beneficial effects. Yet, little is known about the adverse effects of isometric exercise in patients with heart disease. Our laboratory has investigated the incidence of arrhythmias induced by sustained handgrip in patients with heart disease and compared the results with those obtained during graded dynamic bicycle exercise.[6]

Forty-five patients with a variety of heart disease were studied while performing sustained handgrip, either in the cardiac catheterization laboratory (22 patients) or in the exercise laboratory (23 patients), using noninvasive techniques. Continuous electrocardiograms were recorded and blood pressures measured directly while the patients were sustaining 25% or 50% MVC.

All patients also underwent a graded bicycle ergometer exercise test to a symptom-limited maximum work load while a continuous ECG was monitored. The inci-

5. Relation between the response to handgrip exercise and functional class, ejection fraction and left ventricular end-diastolic pressure (LVEDP).

Handgrip Response	Number of Patients	Functional Class I	II	III	Ejection Fraction Normal	Abnormal	LVEDP Normal	Abnormal
Abnormal	13		7	6	5	5	4	9
Normal	9	2	7		9		8	1

6. The incidence of arrhythmias during isometric (handgrip) and dynamic (bicycle) exercise in a series of 45 patients with heart disease.

	Premature Atrial Contractions	Premature Ventricular Contractions	Ventricular Tachycardia	Ventricular Alternans
Isometric exercise	11%	38%	20%	2%
Bicycle exercise	9%	22%	2%	0

dence (percent) of the various arrhythmias with both types of exercise is compared in Fig 6.

The data indicate that isometric exercise has a propensity to induce arrhythmias in patients with heart disease. Furthermore, isometric exercise results in more than twice as many arrhythmias as does dynamic exercise. Arrhythmias, especially ventricular, induced by isometric exercise were more common in patients with arteriosclerotic heart disease than in patients with valvular or myocardial disease. Also, the incidence of arrhythmias was higher in those patients with poor left ventricular function, determined at catheterization, than in patients with relatively normal ventricular function. Extensive coronary artery disease as demonstrated by angiography also was associated with a high incidence of arrhythmias.

The high incidence of arrhythmias with isometric exercise may be attributed to the sudden increase in left ventricular pressure load with only a slight increase in heart rate. A similar increase in left ventricular work with dynamic exercise (bicycle) is associated with a higher heart rate. The lower heart rate with isometric exercise provides much less ectopic suppression than the heart rate of dynamic exercise for an equivalent amount of increased left ventricular work and myocardial oxygen demand.

Summary

Isometric exercise imposes a stress on the left ventricle predominantly by increasing the aortic pressure, and this stress in patients with heart disease may result in deterioration of left ventricular function that is evident from the analysis of ventricular function curves and sometimes may be detected by the development of an atrial gallop or by the development of arrhythmias. Heavy isometric exercise may therefore be hazardous to patients with heart disease.

References

1. Lind AR, McNicol GW: Cardiovascular responses to holding and carrying weights by hand and by shoulder harness. J Appl Physiol 25:261-267, 1968.

2. Freyschuss U: Cardiovascular adjustment to somatomotor activation. Acta Physiol Scand Suppl 342:1-63, 1970.

3. Houston JD, Atkins JM, Blomqvist G: Cardiovascular response to isometric forearm contraction. Clin Res 18:70, 1970.

4. Mullins CB, Leshin SJ, Mierzwiak DS, et al: Isometric exercise (handgrip) as a stress test for evaluation of left ventricular function. Circulation 42:111-122, 1970.

5. Matthews OA, Blomqvist CG, Cohen LS, et al: Left ventricular function during isometric exercise (handgrip): significance of an atrial gallop (S_4). Circulation 42: 111-131, 1970.

6. Atkins JM, Matthews OA, Houston JD, et al: Arrhythmias induced by isometric (handgrip) exercise and dynamic exercise. Clin Res 19:303, 1971.

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This work was supported by grants from the American Heart Association (Dallas County Chapter), the National Heart and Lung Institute (HL 06296) and NASA.

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A brief review

Poststreptococcal glomerulonephritis

Barton F. Haynes, BS

Acute poststreptococcal glomerulonephritis is described as being an immune complex disease.[46] It has been postulated by Dixon and others that the mechanism of glomerular injury involves the interaction of antigen-antibody complexes with the complement system.[11-13] Nephritogenic streptococci probably supply the antigen against which antibody is made, although the exact nature of the antigen has not been determined.[60,66]

Poststreptococcal glomerulonephritis (PSGN) is a common immune complex disease in children and can also occur in adults. Despite voluminous literature on this subject, the basic problems of inhibition of the glomerular injury and of identification of the inciting antigen have yet to be solved. The relationship of subclinical poststreptococcal glomerulonephritis to chronic glomerulonephritis is also unclear.

This review outlines the clinical manifestations of PSGN from recent data, and discusses some of the work that deals with the mechanism of glomerular injury, immunological parameters of diagnosis and prognosis and clinical course.

Etiology

Group A, beta hemolytic streptococcus is the organism whose infection is complicated by the clinical entity of PSGN. Several nonhemolytic Group A strains have been reported associated with PSGN.[70] Beta hemolytic streptococci are classed into groups A to O by the existence of group-specific, carbohydrate cell wall antigens against which antibodies can be made and used for serological identification.[7] M antigens are surface protein antigens of the cell wall of streptococci of group A. Using type-specific antisera made in rabbits to different M protein antigens, many types of group A streptococci can be identified.[7]

Epidemiology

Nephritogenic strains of streptococci were discovered by Rammelkamp after he noted differences in the epidemiological patterns of PSGN and rheumatic fever.[52,53] These differences included: (1) the marked variation in the annual incidence of PSGN versus the constant annual incidence of rheumatic fever; (2) the unpredictable attack rate for PSGN versus the constant attack rate of rheumatic fever; and (3) the low rate of recurrences in PSGN versus the high rate of recurrence in rheumatic fever.

In the 1952 streptococcal epidemic at the Bainbridge Naval Station in Maryland, Stetson, Rammelkamp, and colleagues found the predominant M-type of streptococcus to be 12, with 3, 6, and 19 occurring to a lesser extent. They also found that asymptomatic hematuria occurred with type 12 streptococcus in 20% of the infections, whereas this incidence was much lower for the other types of streptococci.[63] These observations confirmed that the attack rate of PSGN in streptococcal epidemics varies with the type of streptococci causing the particular epidemic.

The nephritogenic strains of streptococci include types 12, 4, and 1, which are the most common strains causing pharyngeal infection complicated by PSGN, and types 2, 49, 55, and 56, which are associated with pyoderma complicated by nephritis.[72] Other types have been suspected of being nephritogenic in a few cases.[72]

Since only a few types of streptococci cause PSGN, there is an annual variation in nephritogenic streptococcal infections, resulting in wide variations in the incidence of PSGN.[32] Most group A streptococci can cause rheumatic fever.[70] The likelihood of a child with rheumatic fever coming in contact with a strain never before contacted and capable of causing recurrence of rheumatic disease is much higher than with the PSGN patient, who must worry about com-

ing in contact with only a few nephritogenic strains.

Pathophysiology of Glomerular Disease: "Complement" is a term describing cofactors present in serum which interact with antigen-antibody complexes and participate in the mediation of the immune response. The activation of complement is an important component in the pathogenesis of PSGN, and the laboratory measurement of the various members of the complement system has become an important diagnostic and prognostic guide in the evaluation of some immune complex diseases. Basically, the sequence of complement activation as outlined by Gewurz[24] is as follows: C_1 (C_1q, C_1r, C_1s) binds to the antigen-antibody complex. C_4 is bound and activated. C_2 is then bound to C_1 and C_4 in the presence of magnesium, forming an active C_2-C_4 complex. This complex is active for a short time, but during its life span binds and activates by cleavage many molecules of C_3, an active component of the complement system, also called beta-1-C. Because one C_2-C_4 complex can activate many C_3 molecules, the cascade effect of the complement system is amplified. Then by mechanisms that are not entirely worked out, C_5, C_6, and C_7 along with C_8 and C_9 are activated.

C_3 is associated with enhancement of polymorphonuclear cell phagocytic activity, facilitation of adherence of antigen to polymorphonuclear leukocytes, and increased vascular permeability—thus facilitating the local immune response. C_5 is involved in histamine release, whereas C_7 is a strong chemotaxic agent for polymorphonuclear cells. C_8 and C_9 participate in the mechanism of cell lysis.

Several theories of glomerular injury have been discussed, all of them implicating the streptococcus as the antigenic source with variations on the mode of glomerular injury.

1. Circulating streptococcal antigens may be filtered and lodge in the capillary wall and react with host antibody.[36,59]

2. A streptococcal product may react with a glomerular antigen and cause it to be recognized as foreign, thus eliciting a host immune response.[36,42]

3. There may be antigens in the glomeruli of certain individuals that cross react with streptococci and cause these patients to be susceptible to PSGN.[44]

4. Antigen from nephritogenic strains of streptococci react with specific circulating antibody and form soluble antigen-antibody complexes in an environment of slight antigen excess. These complexes are filtered by the glomeruli, but because of their character, are not cleared by the normal mechanism in the glomerulus, ie by phagocytosis and transport by the mesangial cells, but are deposited subepithelially along the glomerular basement membrane, there reacting with complement.[11-13]

The fourth theory is thought to be the mechanism of injury to the glomerulus in PSGN. With the activation of complement, mediation of the local immune response occurs with enhancement of polymorphonuclear leukocyte function. The terminal components of the complement sequence are strongly chemotaxic for polymorphonuclear leukocytes, and therefore play an important role in the glomerular basement injury in PSGN. The phagocytic and digestive activity near the glomerular basement membrane (GBM) causes fragmentation and breakdown of the GBM, resulting in an increase in urinary GBM protein in patients with acute episodes of nephritis.[13,29] Dixon suggests that this abnormal urinary increase in GBM proteins might expose these molecules to lymphocytes, thus becoming antigenic and giving rise to the development of anti-GBM antibodies. Noting that all Goodpasture's syndrome patients, most rapidly progressive glomerulonephritis patients, and some chronic glomerulonephritis and membranous glomerulonephritis

patients have anti-GBM antibodies in their serum, he suggests that this may be a mechanism of progression from acute glomerulonephritis to rapidly progressive glomerulonephritis mediated by anti-GBM antibodies. It has been noted that normal urine contains GBM proteins, and that these proteins injected into rabbits produce nephritis.[13] Dixon states that superimposing infection on this circumstance may act as an adjuvant to the GBM proteins in the glomerular filtrate, thus making GBM particles more susceptible to antigenic recognition and processing by host lymphocytes.[13] Progression of PSGN to rapidly progressive and fatal glomerulonephritis occurs in only a small percentage of cases.[58]

Several workers have shown streptococcal antigens localized in the glomerulus of patients with PSGN.[60,66] Streptococcal M protein and plasma membrane antigens have been implicated as the inciting antigens in PSGN, although the exact nature of the antigen mediating glomerular disease is unclear.[66]

Gewurz has described different patterns of serum complement in renal immune complex diseases.[24,25] In PSGN and also in chronic hypocomplementemic glomerulonephritis, C_1, C_2, and C_4 are normal; C_3 is low, as are C_5, and C_6, and C_7. Total complement is also low. In contrast, in the nephritis of systemic lupus erythematosus, all components of complement are low. This suggests that the mechanism of glomerular injury on the molecular level may differ in the above diseases.

Because of the difference in complement patterns seen in PSGN and lupus nephritis, it has been postulated that the properdin system may be important in an alternate pathway of complement activation.[73] Properdin is a plasma protein which may play a role in certain parts of the human immune response. The properdin system is made up of properdin, magnesium, and complement.[49] It is thought that properdin may directly activate the complement system at C_3, bypassing C_1, C_2, and C_4 without the interaction of complement and antigen-antibody complex.[73] Properdin levels are decreased in PSGN and chronic hypocomplementemic glomerulonephritis,[26] and can be localized with C_3 in the subepithelial areas of the GBM in PSGN.[73] The significance of this theory on the overall mechanism of glomerular damage is not known.

Clinical Findings

Incidence and Latency Period: There is no way to predict which patient with streptococcal infection will develop PSGN. The risk of developing PSGN after a streptococcal infection is approximately 1 in 100.[32] However, if the infecting streptococcus strain is nephritogenic, the risk of developing PSGN increases to 10-15 in 100.[72]

The usual latency period between infection and PSGN is one to two weeks, although one study noted 11% of cases developed clinical disease more than 22 days after the onset of streptococcal infection.[41] However, an infection occurring four weeks or more before an episode of acute nephritis is a doubtful factor in a suspected case of PSGN.[58]

PSGN affects males twice as frequently as females;[58] the average age in children is 5-7 years, with PSGN rarely occuring before age 2.[41,32] In adults the average age is 28 years, and the male to female ratio is 5 to 4.[37] Lewy summarized the clinical presentations of 46 clinically, immunologically, and histologically proven cases of sporadic PSGN in children (Figs 1 and 2).[41]

Presenting Symptoms: The most common presenting symptoms are hematuria and facial edema, with hypertension being a common physical finding. The blood urea nitrogen (BUN), creatinine clearance, antistreptolysin O titer (ASO), and total he-

molytic complement are all abnormal in most cases. Chest x-ray, electrocardiogram, and renograms also give a high yield of abnormal findings.[41] With acute and chronic bacterial cultures, one can document streptococcal infections in most cases of PSGN.[58]

Serum Antibody Levels: All streptococci produce extracellular molecules that are responsible for the pathogenicity of the organism and for eliciting a host inflammatory response. These include streptolysin O, deoxyribonuclease B (DNase B), nicotinamide adenine dinucleotidase (NADase), and hyaluronidase.[7,72] Antibodies against these antigens are made by the infected host and are measurable in the host serum. These antibodies provide a good indication of the existence, length, and severity of streptococcal infection,[20] but are not related to the occurrence of PSGN or the severity of the glomerular disease when it does occur.[5,41,63] "The influence of the clinical severity of the preceding infection and of the magnitude of the antibody response on the attack rate of acute glomerulonephritis has not been clearly ascertained."[64] Nor are these antibodies to streptococcal extracellular molecules responsible for the formation of long-term immunity, but it is the antibody response to streptococcal cell wall antigens (M protein antigens) that is responsible for eliciting long-term type specific immunity following infection.[71]

ASO titers are elevated in 70-90% of cases of PSGN.[41,58] The ASO titer increase is slight with streptococcal pyoderma when compared with the ASO titer rise in streptococcal pharyngitis.[34] Antistreptococcal hyaluronidase and antistreptococcal deoxyribonuclease B (anti-DNase B) titers usually are high after streptococcal skin infections.[10,51] In addition, antistreptococcal NADase levels are often elevated in streptococcal pharyngitis infection.[72] Because of these studies, Wannamaker

1. Preceding infections in PSGN.

Infection	%
Upper respiratory infection	54
Sore throat/otitis media	21
Skin	11
Other or unknown	13

2. Presenting symptoms in PSGN.

Symptom	%
Hematuria	65
Edema	69
Gastrointestinal symptoms	26
Central nervous system symptoms	21
Dyspnea	8
Oliguria	26
Anuria	9

suggests that in addition to ASO levels, it may be useful to follow antistreptococcal NADase antibody levels in patients with streptococcal pharyngitis complicated by PSGN, and antistreptococcal hyaluronidase and antistreptococcal DNase B levels in patients with streptococcal pyoderma complicated by PSGN.[72]

Although elevation of the ASO titer is not proof of PSGN, it is strongly suggestive of streptococcal infection. Low titers of ASO with nephritis suggest: (1) a case of non-streptococcal nephritis; (2) one of the few cases of PSGN that does not manifest a rising antibody titer; or (3) previous antibiotic treatment for infection.[68] Stetson showed that penicillin treatment early in the course of type 12 streptococcal pharyngitis decreased the ASO titer by 50%.[63] ASO titer begins to rise one to three weeks after infection, peaks at three to five weeks, and shows a variable decline.[8] Approximately 50% of titers are normal at six months, and 75% of titers are normal at one year.[43]

Antibodies to M protein develop slowly. They begin to rise about two months after infection and confer lifelong type-specific immunity to the host.[8] In contrast to ASO titers, anti-M antibodies show variation in rise according to the serological type of the infecting streptococcus.[8] Penicillin therapy will also decrease the antibody titer to M protein antigens. This effect of penicillin is related to both the dose and route of administration.[35]

Serum Complement Levels: Studies have shown that complement is not lost in the urine in PSGN but is bound to the glomerulus, and that these localized deposits can be seen with immunofluorescent techniques.[46] Clinically, C_3 (beta-1-C) or total complement levels are the values usually followed. Serum complement levels are decreased with the onset of clinical PSGN, and return to normal within one month in resolving cases.[21,25,27] Low complement levels have been associated with more severe clinical course, and prolonged low serum complement levels may be associated with persistence of disease in PSGN.[21,39] Statistical correlation of the decrease in serum complement levels with functional and morphological changes in the glomerulus has revealed equivocal results.[21,41]

Urinalysis Findings: It is suggested that all cases of proven streptococcal infections should have a follow-up urinalysis,[58] but the relationship between urinary abnormalities during streptococcal infection and the occurrence of PSGN is unclear.[23,63] However, urinary sediment or protein abnormalities occurring one to four weeks after streptococcal infection are strongly suggestive of subclinical streptococcal-induced renal disease.

Red blood cell casts are commonly seen in PSGN, and are an important finding in documenting the presence of glomerulonephritis. Successful observation of red blood cell casts requires that the urine specimen be fresh (within 30 minutes of voiding), acid (alkaline urine dissolves the casts), and concentrated.[58]

Hematuria occurs in about 70% of cases.[41] Gross hematuria resolves within two weeks; microhematuria may remain for several years.[27,58] Schwartz and Kassirer state that microhematuria unassociated with any other sediment or urinalysis abnormality appears to have a favorable prognosis.[58]

In contrast to hematuria, persistent proteinuria is thought to be a reliable prognostic sign suggesting continuing disease.[27,58] Edema should disappear in one month, heavy proteinuria by two months. There should be only mild or no proteinuria at one year.[27,58] If proteinuria is still present at one year, persistence of disease should be suspected.[58] However, recovery has been noted to occur even when proteinuria has persisted for longer than one year.[15,33]

Other Laboratory Findings: Anemia and hypoproteinemia are seen frequently. These abnormalities are thought to be due to dilutional effects of increased salt and water load, but hemolysis and decreased production of red blood cells may also play a minor role in anemia.[27,58] The hemoglobin usually is 11-12 gm/100 ml, rising to normal with diuresis.[58] The serum protein also rises to normal with diuresis unless the nephrotic syndrome is present, providing another reason for protein loss.[27]

Electrocardiographic changes include flattening or inversion of the T wave. The QT and QRS interval may be prolonged.[2,37]

Systemic Manifestations of PSGN: Lethargy, malaise, weakness, and anorexia are common manifestations which generally disappear after one or two weeks of bed rest. Fever and chills suggest a pyogenic infection.[58] Cardiovascular signs and symptoms are common and include rales, dyspnea, cough, elevated jugular venous pressure, apical murmurs, occasional S_4 gallop rhythms, and rarely pulmonary edema. Cardiomegaly resulting from PSGN responds well to diuresis.[56,58] The edema of PSGN differs from the edema of true left heart failure in that in PSGN, the edema usually is facial, heart rate is normal or decreased, circulation time usually is normal, and orthopnea is rare.[9,58] Mild myocarditis may occur, but it is not thought to be significant in PSGN.[9,58] Salt and water retention with volume overload is thought to be the primary cause for these cardiovascular manifestations, but this does not explain all of the features of PSGN.[9,58,68]

Renal Function in PSGN: It is beyond the scope of this review to give a complete discussion of the functional changes in the kidney in PSGN. Several reviews present excellent discussions of recent work.[9,17,58] In general, there is an increase in serum BUN and creatinine secondary to a decrease in renal clearance of urea and creatinine. The glomerular filtration rate (GFR) is decreased with near normal renal blood flow. Tubular function is normal or slightly decreased with a resulting glomerulotubular imbalance. Salt and water retention may be caused by the decrease in GFR, or by hypersecretion of aldosterone with increased sodium reabsorption.[9,17,58,68]

Gross and Microscopic Morphology: Heptinstall gives an excellent description of the morphological changes in the kidney in PSGN. Grossly, the kidneys are enlarged, swollen and pale—bulging with interstitial edema. On light microscopy, the glomeruli are enlarged, bloodless, and tend to fill Bowman's space. They are all diffusely involved. Capillary lumen are compressed. There is increased cellularity of the glomeruli due to endothelial and mesangial proliferation. Necrosis generally is not seen. Tubules can show focal atrophy with thin epithelium and dilated lumen with cytoplasmic hyaline granules. Red cell casts are seen. Focal edema with inflammatory infiltrate of polymorphonuclear leukocytes and rare plasma cells are seen in the interstitium. Electron microscopy shows characteristic subepithelial electron dense immune complex deposits, fusion of foot processes around the deposits, and slight thickening of the GBM.[30,31]

Changes seen in patients with persistent disease include centrolobular hyalinization with solidification of the mesangial area and eosinophilic areas in the center of the glomerular lobule. Heptinstall suggests that these chronic morphological findings are not good criteria for chronicity of disease, noting that some of these patients recover.[30]

The typical immunofluorescent staining pattern in PSGN is lumpy, granular fluorescence of the GBM with fluorescein conjugated antibodies against IgG and C_3.[46] Treser suggests that immunofluorescent staining of the GBM is a good indicator of persistent disease.[67]

Clinical Course and Prognosis

The subject of persistent disease following PSGN and its relationship to chronic glomerulonephritis is a controversial one. Because the majority of patients with chronic glomerulonephritis do not give a history of previous PSGN, many people have attempted to account for the etiology of chronic glomerulonephritis by suggesting that far more cases of PSGN progress to chronic disease than is suspected, or that many subclinical cases of PSGN go unnoticed, but may go on to persistent glomerular disease.[1,22,47,48,58,61,74]

In this article, *subclinical* cases of PSGN are those in which the patient is asymptomatic during the acute stage of the disease, although mild elevation in diastolic pressure, microscopic hematuria, or proteinuria may be demonstrated.[14,22] *Persistent* or *latent* cases are those in which proteinuria or other renal abnormalities occur more than one to three years after the acute episode of PSGN.[41,58]

Because subclinical PSGN occurs in 20% of siblings of children with overt PSGN,[14] Schwartz speculates that these subclinical cases of PSGN "probably contribute significantly to the reservoir of persons who, without an antecedent history of renal disease, are discovered to have chronic glomerulonephritis."[58]

However, since the occurrence of persistent disease and poor prognosis has been related to such factors as persistent proteinuria, decreased creatinine clearance, and presentation with severe azotemia,[41] one might expect the mild, subclinical cases of PSGN to heal at the same high rate as do the mild clinical cases.[19,63] Lewy and others state, "There has been thus far, however, no patient initially thought to have mild disease who has shown evidence of progressive disease. There is thus no evidence in this study to support the supposition that chronic glomerulonephritis may evolve from mild or even unrecognized acute poststreptococcal glomerulonephritis."[41]

Singer, Hill, Rosenberg and others report a series of children diagnosed as having recurrent benign hematuria.[61] They showed that on biopsy, 60% of the children had light microscopic glomerular lesions of segmental glomerulonephritis, and on electron microscopic examination, 30% had electron-dense deposits similar to those seen in resolving poststreptococcal glomerulonephritis. They suggest that these children are in the latent phase of a glomerulitis preceding the clinical entity of chronic glomerulonephritis.

In Lewy's series of 46 cases, at a five-year follow-up, four patients had died, three in the acute phase of the disease. Five patients were lost to follow-up, and four had clinical and biopsy-proven persistent disease.[41] Also, those children with severe glomerular capillary obliteration on renal biopsy were most likely to do poorly. The outcome was partly predictable by the level of increase of BUN, and by the decrease of the creatinine clearance. However, Lewy's group recognized that many patients who presented with severe azotemia and depressed creatinine clearance have recovered clinically. Most agree that the severity of edema, azotemia, and hypertension has an unpredictable effect on the future course of the PSGN patient.[27,37] The most severe case of PSGN may heal with no residua, while milder forms may progress to persistent disease.[47]

Freedman and others performed renal biopsies and followed three patients referred to them with histories of streptococcal infection and abnormal urinary sediment in the absence of clinical symptoms.[22] Serial biopsies showed mesangial and endothelial proliferation with persistence of the lesions during a two-year period. One case showed histologic features of progression to chronic sclerosing glomerulonephri-

tis with glomerular crescent formation. None of the three cases manifested any clinical symptoms of PSGN.

The hypothesis that all cases of chronic glomerulonephritis originate from clinical or subclinical cases of PSGN has been discussed for many years.[1,47] Although much evidence is available to support this belief, as yet one cannot definitely say that this is the case. Differences in diagnostic criteria and duration of observation of patients have made accurate studies difficult.

Sporadic disease is a more severe condition than epidemic disease in children and adults.[33] Also, sporadic disease in children carries a higher rate of persistent disease than do the epidemic groups of cases.[16,45] This is possible because most cases recorded in epidemics are mild, the majority showing urinary sediment and mild clinical symptoms only. Sporadic cases must be clinically significant to be recognized, and therefore are of greater severity. In discussing the prognosis of PSGN, it is useful to consider sporadic and epidemic persistence rates separately.

Stetson and others report that in epidemic PSGN in adults, clinical disease is generally mild, and tends to subside completely within eight to ten weeks, although in their study, long-term follow-up with biopsy data was not available.[63]

Dodge and his colleagues recently reported the results of a prospective study of 41 cases of childhood sporadic PSGN.[15] Persistent proteinuria was noted in 11% of cases after three years. However, in all cases proteinuria eventually cleared, the latest clearing 71 months after onset. One patient died at age 15 of progressive renal failure two years after the onset of PSGN. Dodge et al noted a favorable long-term prognosis in almost 100% of preschool age patients with sporadic PSGN, although 11 of 41 of their cases were subclinical PSGN found by screening siblings of children with overt PSGN.[15]

From reports to date, the rate of persistent clinical or morphological disease is approximately 1 to 5% of cases in epidemic PSGN in children,[19,58] approximately 30 to 50% of cases in adult *sporadic* PSGN,[16,33,37,58] and 5 to 10% of cases in childhood *sporadic* PSGN.[41,45]

Additional controlled prospective studies are needed to clarify further the relationship of PSGN to chronic renal disease.

Differential Diagnosis

In the classic case of PSGN, the diagnosis is straightforward and generally presents no problem to the physician. Many causes of acute nephritis exist and some are listed in Fig 3. It is beyond the scope of this review to present a complete discussion of the differentiating characteristics of the many causes of acute nephritis.

One of the difficult clinical questions in differential diagnosis is whether the patient is presenting with his first episode of nephritis or an exacerbation of chronic glomerular disease.[15] The incidence of acute exacerbations of chronic disease in reported cases of PSGN may be as high as 13%.[15] In contrast to children with PSGN, children with acute exacerbations of unrecognized pre-existing disease usually have an earlier history of renal problems, and a shorter latent period after infection, although infection usually will be the inciting factor in the exacerbation.[58] Left ventricular hypertrophy and retinopathy may be present secondary to long-standing hypertension, and broad "renal failure" casts may be seen in the urine sediment. A decrease in renal size may be noted on excretory urogram.[58]

Treatment

In 1955, Stetson and Rammelkamp showed that in patients treated for epidemic PSGN

with penicillin, the attack rate was 4%, whereas in patients with no treatment the attack rate was 12%.[63] This study suggested that penicillin significantly lowers the incidence of PSGN in patients with streptococcal infections. However, later studies question these results.[35] Penicillin prophylaxis decreases the incidence of PSGN in an epidemic by decreasing the incidence of streptococcal infections.[54] Prophylaxis should be given to the primary population at risk during an epidemic and to close contacts and siblings of patients with PSGN who, by bacteriological techniques, are found to harbor beta-hemolytic streptococci.[58] Obviously, all cases of streptococcal pharyngitis or pyoderma should be treated, regardless of the questionable efficacy of penicillin in preventing PSGN.

For the patient with clinically evident PSGN, the treatment regimen centers around eradicating existing streptococcal infection, therefore removing all antigen source, and restricting salt and fluid intake while controlling hypertension.[40] There is no convincing evidence that protein restriction, tonsillectomy, prolonged bed rest after the acute period, or corticosteroid administration is effective in the treatment program for PSGN.[35] Digitalis is not indicated in the treatment of the circulatory overload syndrome in PSGN because of the lack of primary myocardial disease.[27] Furosemide recently has been shown to be effective in the treatment of salt and water retention in the acute stage.[56]

Since the initiation of treatment of volume overload and hypertension, the mortality during the acute phase of PSGN has dropped in the past 40 years from about 8% to approximately 1%.[49]

No recent radical changes have been reported in treatment, the basic principle remaining symptomatic relief coupled with management of the complicating physiologic disturbances. It is hoped that major advances will be made in the future in elucidating the specific mechanism of glomerular injury, thereby paving the way for the development of therapy aimed at eliminating the renal injury, and therefore, the clinical entity of poststreptococcal glomerulonephritis.

Subacute bacterial endocarditis[28]
Schonlein-Henoch purpura[69]
Poststreptococcal glomerulonephritis
Acute nephritis of bacterial (nonstreptococcal) or viral origin[75]
"Shunt" nephritis[6,62]
Acute exacerbations or chronic glomerulonephritis[15,58]
Rapidly progressive glomerulonephritis[3]
Focal glomerulonephritis[58]
Systemic lupus erythematosus[16]
Wegener's granulomatosis[55]
Polyarteritis nodosa[57]
Goodpasture's syndrome[4]
Mixed cryoglobulinemia[50]

3. Causes of acute episodes of nephritis.

Mr. Haynes, Senior Medical Student, Baylor College of Medicine, Texas Medical Center, Houston, Texas 77025.

A copy of the author's reference list is available on request from TEXAS MEDICINE, 1801 N Lamar Blvd, Austin, Texas 78701.

Placidyl®
(ETHCHLORVYNOL)

Brief Summary

Indications—Placidyl (ethchlorvynol) is indicated as short-term hypnotic therapy in the management of insomnia.

Contraindications—Drug hypersensitivity and porphyria.

Warnings—Not recommended during the first and second trimester of pregnancy. Caution patients of possible combined exaggerated effects with alcohol, barbiturates, tranquilizers or other CNS depressants. Exaggerated effects might result in blurring of vision, paralysis of accommodation and profound hypnosis. Caution patients concerning driving a motor vehicle, operating machinery, or other hazardous operations requiring alertness after taking the drug. Administer with caution to patients with suicidal tendencies and do not prescribe large quantities of the drug. Adjustment of the dosage of oral anticoagulants might be necessary when beginning ethchlorvynol therapy, during therapy, or after stopping therapy. This drug is not recommended for use in children. PLACIDYL HAS THE POTENTIAL FOR THE DEVELOPMENT OF PSYCHOLOGICAL AND PHYSICAL DEPENDENCE. INSTANCES OF SEVERE WITHDRAWAL SYMPTOMS, INCLUDING CONVULSIONS AND DELIRIUM CLINICALLY SIMILAR TO THOSE SEEN WITH BARBITURATES, HAVE BEEN REPORTED IN PATIENTS TAKING REGULAR DOSES AS LOW AS 1000 MG. PER DAY OVER A PERIOD OF TIME WHEN THE DRUG WAS SUDDENLY DISCONTINUED. PROLONGED ADMINISTRATION OF THE DRUG IS NOT RECOMMENDED. Addiction-prone patients or those who are likely to increase dosages of the drug on their own initiative should be observed for evidence of signs or symptoms which may indicate possible early withdrawal or abstinence symptoms. Signs and symptoms associated with withdrawal and abstinence include unusual anxiety, tremor, ataxia, slurring of speech, memory loss, perceptual distortions, irritability, agitation and delirium. Other less well defined signs and symptoms, not necessarily due to withdrawal and abstinence, may include anorexia, nausea or vomiting, weakness, dizziness, sweating, muscle twitching and weight loss. Abrupt discontinuance of Placidyl following prolonged overdosage may result in convulsions and delirium.

Precautions—Toxic amblyopia has been reported with long-term continuous use of ethchlorvynol. Permanent visual defects have been observed, although amblyopia has improved after discontinuation of the drug. Drug dosage should be limited for elderly and debilitated patients to the smallest effective amount. If pain is present, this drug should only be given if insomnia persists after pain is controlled with analgesics. Caution is advised in prescribing the drug for patients who are being treated with either MAO inhibitors or antidepressants. Transient delirium has been reported with the combination of Placidyl and amitryptyline. Drug dosage should be reduced if prescribed for patients receiving MAO inhibitors or antidepressants. Caution should be exercised in patients with impaired hepatic or renal function. Patients who respond unpredictably to barbiturates or alcohol, or who exhibit excitement and release of inhibition in association with such agents, may also react in this way to Placidyl. Rarely, patients may exhibit symptoms suggestive of an unusual susceptibility to the drug; such as prolonged hypnosis, profound muscular weakness, excitement, hysteria, or syncope without marked hypotension. Transient giddiness or ataxia may occur.

Adverse Reactions—Hypotension, nausea or vomiting, gastric upset, aftertaste, blurring of vision, dizziness, facial numbness, and allergic reaction typified by urticaria have been reported following Placidyl administration. Mild "hangover" and symptoms of mild excitation have occurred in some patients. There have been rare reports of cholestatic jaundice occurring in patients taking ethchlorvynol. A few cases of thrombocytopenia have been reported in patients receiving ethchlorvynol. 302430

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Precautions: Administer with caution to patients with incipient glaucoma, bladder neck obstruction or urinary bladder atony. Prolonged use of barbiturates may be habit-forming.

Side effects: Blurred vision, dry mouth, dysuria, and other atropine-like side effects may occur at high doses, but are only rarely noted at recommended dosages.

Dosage: *Adults:* One or two tablets three or four times daily. Dosage can be adjusted depending on diagnosis and severity of symptoms.

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to move,
and the Latin **sedatus,**
to calm)

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Developments in transient hemorrhagic disorders

A. J. Marengo-Rowe, MD; J. E. Leveson, PhD

There are a number of different pathogenic mechanisms that lead to transient hemorrhagic disorders. A careful assessment of the clinical situation along with the correct interpretation of laboratory tests is necessary for successful therapy. A rapid and reproducible test, the tri-F titer, which gives an estimate of the fibrinogen concentration and detects significant fibrinolysis and fibrinogen/fibrin split products in plasma, is described. This test also detects the presence of circulating heparin. The use of the tri-F titer in the diagnosis of transient coagulopathies is discussed. In turn, some of the transient hemorrhagic disorders are discussed from the viewpoint of modern concepts of blood coagulation and its control mechanisms. Fallacious concepts concerning the clinical interpretation of these disorders which may tempt the physician into the indiscriminate use of heparin are reviewed.

Patients who are born with an inherited defect of one or more of the plasma factors essential for normal blood coagulation live daily with the knowledge that at any time they may suffer from sudden hemorrhage. Should these patients sustain any injury, no matter how trivial, a life-threatening situation can ensue. Individuals with hemophilia (factor VIII defect) or Christmas disease (factor IX defect) are in this category, and their problems have been recognized for some time. Also patients who acquire diseases of the liver or of the hematopoietic system, such as cirrhosis and leukemia, are known to be susceptible to hemorrhagic episodes because they are unable to manufacture adequate quantities of hemostatic factors necessary for normal wear and tear.

In recent years there has been an increasing awareness of the spectrum of abnormalities which may occur in the hemostatic mechanism in a multitude of apparently unrelated disease states. For example, it has been observed that in certain situations where widespread tissue damage and blood loss has occurred, a violent activation of the coagulation mechanism takes place[1] which is followed by generalized proteolysis with the indiscriminate destruction of certain plasma coagulation proteins.[2,3] Should these proteins be destroyed more rapidly than they can be replaced, then normal blood coagulation becomes impaired and a hypocoagulant state ensues with spontaneous secondary or excessive bleeding. These hemorrhagic syndromes have been described under titles such as consumptive coagulopathy, disseminated intravascular coagulation, defibrination syndrome, fibrinogen fibrin conversion syndrome, and others. There has been a tendency for the unwary to define these syndromes too closely and to ascribe them to a single mechanism of coagulative disorder. However, it is more probable that there are a variety of different ways in which the peculiarly sensitive coagulation mechanism could become deranged and evidence is accumulating that this is so.[3] Hence, accurate diagnosis is an essential part in our understanding of these transient hemorrhagic syndromes as each type of defect presents a separate therapeutic problem.

In the past the clinical and laboratory diagnosis of hereditary hemorrhagic defects have been the subject of much effort and research so that today suitable facilities and laboratory tests for these purposes are available at many medical centers. However, it was only during the past decade that any attention was focused on the acquired coagulopathies so that the diagnosis and management of these conditions, which are often transient and explosive by nature, is still in its infancy. Indeed, when one ex-

amines this situation critically, it appears that our system of priorities has been misplaced because in clinical practice the acquired coagulopathies are encountered much more frequently than the hereditary ones. The dynamic situation which exists in many of the acquired coagulopathies makes it difficult to interpret laboratory tests, such as the partial thromboplastin time, which were essentially developed for the diagnosis of hereditary bleeding disorders. This has been highlighted by the introduction of new anticoagulant and thrombolytic agents, the increase in availability of blood and its use for massive transfusion, and the development of surgical procedures which require extracorporeal circulation.

Diagnosis: Clinical and Laboratory

The clinical approach to transient coagulopathies is dependent on the attending physician being aware of the situations in which these complications have been described and are likely to occur. For example, it is recognized that patients with certain obstetric disorders,[4] malignant disease,[5] or systemic infections[6] are prone to hemorrhagic manifestations. Also, patients who undergo operative procedures that require prolonged extracorporeal circulation[7] may be similarly affected. There are two major features which contribute to the complexity of the clinical problem: (a) the multiplicity of hemostatic defects which may occur, and (b) the rapidity with which these defects may occur and change. Hence, the physician is faced with the dilemma of sorting out this complexity in order to arrive at a specific diagnosis in time to make rational therapy possible. In the investigation of a patient who is bleeding, rapid screening tests such as the bleeding time, platelet count, prothrombin time, partial thromboplastin time, and turbidometric fibrinogen may tell us that something is wrong but rarely permit the making of a specific diagnosis. Furthermore, some of these tests are affected by lytic products of coagulant proteins and by circulating anticoagulants, such as heparin, so that they become uninformative and sometimes even misleading when used in transient hemorrhagic situations. Clearly, therefore, a test, which detects fibrinogen/fibrin split products (FSP) and excessive fibrinolytic activity, or detects situations in which the patient has been dosed with heparin (accidentally or intentionally), is a valuable diagnostic tool. More sophisticated tests such as specific coagulation factor assays, euglobulin clot lysis time, and FSP assay which give further information are available but these often take a longer time to complete than the clinical situation allows and require more technical expertise.

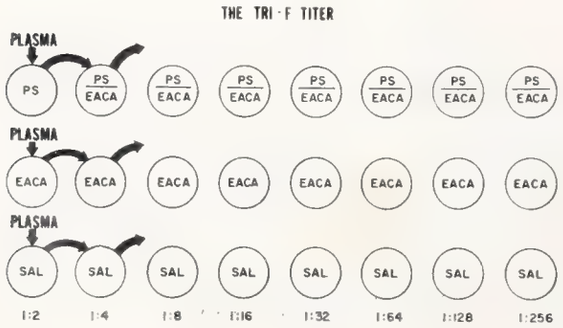
The objectives of speed and technical simplicity have been achieved in a laboratory test called the tri-F titer. This is a rapid procedure for the estimation of fibrinogen and the detection of FSP and excessive fibrinolysis. This test has proven to be most valuable in the diagnosis and management of patients with hemorrhagic states and requires only 1 ml of citrated plasma.

The Tri-F Titer: Three serial doubling dilutions are made of the patient's plasma: the first in saline, the second in epsilon aminocaproic acid (EACA), and the third in a mixture of protamine sulfate (PS) and EACA. All the tubes are then clotted with thrombin and the end-point of each titration is taken as the last tube in which a visible clot is formed. A diagram of the layout of the three rows of tubes is shown in Fig 1. In the first row, each tube contains 0.3 ml of 0.15 M sodium chloride; in the

second row, each tube contains 0.3 ml of 0.05 M EACA in 0.15 M sodium chloride solution; in the third row, the first tube only contains 0.3 ml of 40 mg/100 ml PS in 0.15 M sodium chloride and the other tubes contain 0.3 ml of 0.025 M EACA in 20 mg/100 ml PS (prepared by mixing the 0.05 M EACA and 40 mg/100 ml PS, in equal volumes). Using a pipet, 0.3 ml of the patient's plasma is added to the first tube in the first row. The contents of the tube are mixed, using the pipet, and 0.3 ml is then transferred to the second tube and so on to the eighth tube in the first row. From the contents of this eighth tube, 0.3 ml is then discarded. The same process is repeated in the second row which contains the EACA and then again in the third row which contains the PS/EACA mixture. A total of 0.9 ml of the patient's plasma is required for this test. A control is performed in an identical fashion using plasma containing a standardized amount of fibrinogen. One drop of thrombin, 25 units/ml, is added to each tube. The test and control dilutions are then incubated in a water bath at 37C for 15 minutes. The tubes are observed for the presence of a clot by tilting, and the last tube in which a gelatinous mass can be seen is recorded as the titer.

In the PS/EACA dilution, the clot is dissimilar to that seen in the other two rows.

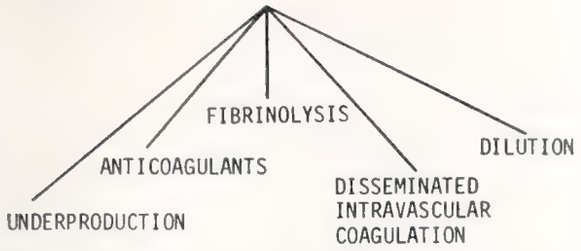
1. A layout of three rows of tubes in the tri-F test.



Instead of a gelatinous mass a small, coherent, retracted clot is seen and is taken as the end-point. The subsequent tube in this row may contain strands of fibrin and should be ignored. The sensititvity of tri-F titer can be increased by reexamining the tubes at 30 and 60 minutes and noting any changes in the titrations. The time taken to perform this test can be reduced by arranging the tubes in the sequence described with the reagents in them, and prefreezing at —20C so that they may be warmed to 37C while the patient's blood is being centrifuged. In this manner the results are available within 30 minutes of receiving the patient's blood sample.

The interpretation of the tri-F titer test is as follows. The fibrinogen level is related to the titer in the PS/EACA mixture: the higher the titer in PS/EACA mixture the higher the fibrinogen level in the patient. The normal range is 1:64 to 1:256, which is equivalent to a fibrinogen concentration of 200 mg/100 ml or more. Comparison of the titer in PS/EACA with that in EACA alone detects the presence of FSP. If the titer is shorter in EACA than in PS/EACA mixture by two tubes or more, then one can conclude that FSP are present in the plasma in sufficient amounts to interfere with clot formation. Comparing the titer in EACA with that in saline permits the detection of fibrinolysis. If the titer is lower in saline than in EACA by two tubes or more, then one may conclude that fibrinolysis is occurring. Also, in the presence of vigorous fibrinolysis, the reinspection of the saline row at a later time will reveal its titer to be gradually decreasing. All tubes in the tri-F titer test should be examined. This will not only give valuable information about the nature and quality of the clots formed but will also reveal the presence of heparin in the plasma. For example, if it is noted that

2. Etiology and pathogenesis of transient hemorrhagic disorders.



no clots have formed in the early tubes in the saline and EACA rows whilst clots have formed in the PS/EACA row, it can be assumed that heparin is present.

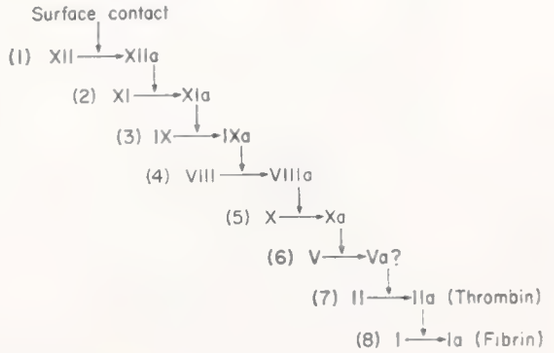
Discussion

The etiology and pathogenesis of transient hemorrhagic disorders are outlined in Fig 2. In essence these disorders are caused by the increased utilization or destruction of the hemostatic factors, the presence of circulating anticoagulants, and/or a reduction in the hemostatic factors due to underproduction or dilution by transfused banked blood. The tri-F titer when used in conjunction with the clinical findings, a peripheral blood smear and platelet count, the prothrombin time and partial thromboplastin time is a powerful adjunct in making a correct diagnosis and instituting rational therapy. All too often however the diagnosis of disseminated intravascular coagulation (DIC) is invoked with little or no justification and heparin is given with unpredictable results. This has led to much controversy, which is hardly surprising since DIC is not a diagnosis which can be used to cover all these bleeding syndromes. However, even in the syndromes that can be ascribed to DIC there is little agreement regarding the use of heparin to ameliorate the bleeding tendency although it is generally observed that the treatment of the underlying disease process, which initiated the DIC, reduces the bleeding tendency.

A review of the literature suggests that a laboratory diagnosis of DIC primarily depends on finding a qualitative and/or quantitative abnormality of fibrinogen.[8] In the face of this coagulopathy, administration of heparin is usually recommended.[9] To those of us who have played in this clinical game of Russian roulette, this is rarely so. Hence, when the clotting philosophy which is used to justify therapy is clearly inadequate, it is only logical to surmise that the philosophy is either incorrect or incomplete. Much has been written about the mechanism of coagulation; yet its control systems have been almost totally ignored. Clearly the localization of blood coagulation to a site of injury is biologically mandatory. The dissemination of the coagulation process in disease states must be an indication that something has gone wrong with the control mechanisms. In order to throw some light on this controversy, it will be necessary to review some of the modern aspects of blood coagulation and its control mechanisms.

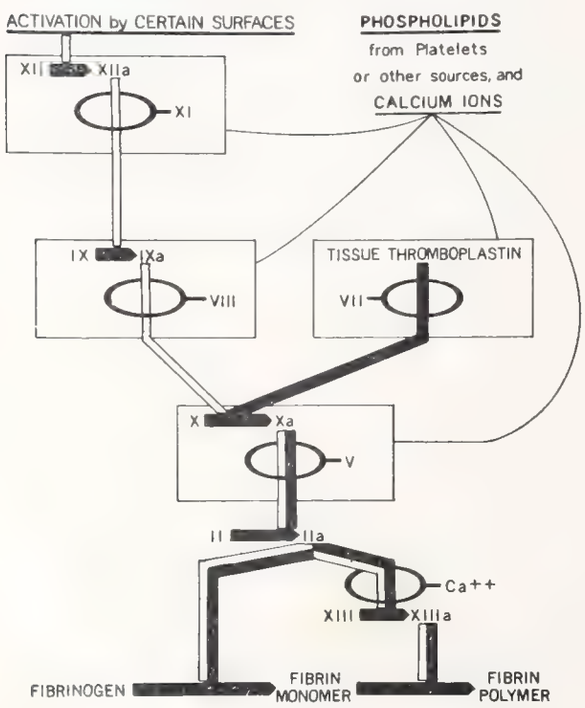
The cascade amplifier hypothesis of blood coagulation described by Macfarlane is shown in Fig 3. Macfarlane derived the term "cascade" from his knowledge of electronics, and he used this term to emphasize that he was proposing a biologic cascade amplifier.[10] Macfarlane's theory proposed a series of amplification stages in which the coagulation process involved was the conversion of an inactive protein, a zymogen, into an enzyme and that the enzyme generated acted upon the subsequent stage. More recently it has been shown that some of the proteins involved in blood coagulation, such as factors V,

3. Macfarlane's cascade hypothesis of blood coagulation.



VII, and VIII, are in fact neither zymogens nor enzymes.[11-14] Biochemically these proteins are unique and we have chosen to call them "expressor proteins." The "expressor proteins" serve to permit biological expression of the enzymic activity of each stage, to locate the coagulation process to a phospholipid surface which is made available on the platelets and thereby serves to localize the coagulative process to the damaged areas, and to permit biological control of the coagulative process. With these considerations a modification of Macfarlane's theory is outlined in Fig 4. In this modification coagulation is achieved through the action of a series of complexes. Each of these consists of an enzyme, an "expressor protein," calcium, and phospholipid. One essential feature of this system is the generation of a powerful and potentially lethal enzyme, thrombin. Clearly the production of thrombin and the expression of its activity must be carefully regulated. A comparison with electronic systems gives insight into how such control may be achieved.

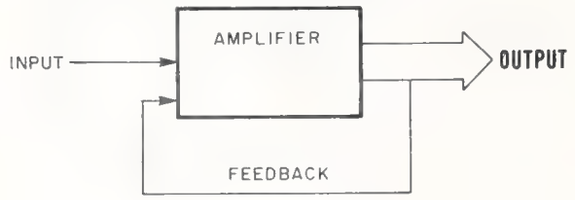
4. A modern cascade hypothesis of blood coagulation.



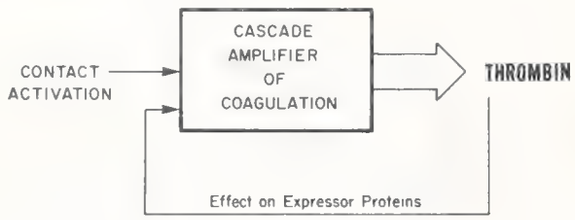
In many electronic systems the output from an amplifier can be carefully controlled by a process that is called feedback. In this process part of the output is fed back into the input and can be used to either limit or enhance the output (Fig 5). Feedback is a feature in many biologic systems. What kind of feedback systems are possible in coagulation? One such system may originate from the expressor proteins. Control by these expressor proteins permits control of thrombin production (Fig 6). The expressor proteins, in order that they may interact with phospholipid surfaces, must have an open structure. This open structure renders them susceptible to attack by proteolytic enzymes such as thrombin. Thus the production of thrombin by the biological amplifier of coagulation is regulated by a feedback system whose action is to destroy the expressor proteins by thrombin itself. In this way thrombin can switch off its own production. However, a transient state exists in which thrombin enhances the activity of the expressor proteins, rendering them unstable and thus shortening the lifespan of their action.[15,16] Another feedback control system comes from the action of fibrinolysis (Fig 7). This mechanism controls the production of fibrin via the formation of FSP. FSP act in three ways: they inhibit thrombin, platelet aggregation, and the stabilization of fibrin, which renders it more susceptible to dissolution by fibrinolytic enzymes. Hence, both these control mechanisms serve to limit the final outpouring of the biologic amplifier. Clearly such control mechanisms are extremely desirable since the excessive deposition of fibrin is hardly likely to be beneficial. Hence, in a patient with dis-

seminated intravascular clotting, one would expect to find FSP and the reduction of factors V and VIII, which should control the coagulative process. However, in many clinical situations these control mechanisms appear to be ineffective and the coagulative process continues even after the intravenous injection of heparin. In these instances it can only be concluded that the coagulative process must be different. We already know that the pit vipers inject enzymes that generate intravascular coagulation. It is also known that these enzymes are not inhibited by heparin.[17] Staphylococcal coagulases are another group of enzymes which can generate intravascular clotting and these also are not inhibited by heparin. In addition it has been shown that certain enzymes produced by the liver are able to clot fibrinogen without the formation of thrombin.[18] In reviewing the literature a common misconception is that if intravascular coagulation occurred at all, then it must have occurred via the normal cascade mechanism which generates thrombin. To date there is no evidence which supports this view and there is no laboratory test which will enable one to decide which coagulative processes are generated by thrombin and which are generated by some other mechanisms. Hence, it is not surprising that heparin has been observed to be ineffective in many clinical situations in which intravascular clotting has occurred since the mode of action of this anticoagulant is by the inhibition of thrombin. The inappropriate use of heparin can only worsen the bleeding tendency by arresting the normal hemostatic process. At present, confronted with the dilemma of DIC, the physician can only fall back on his clinical experience which must remain the overriding influence in deciding a course of therapy.

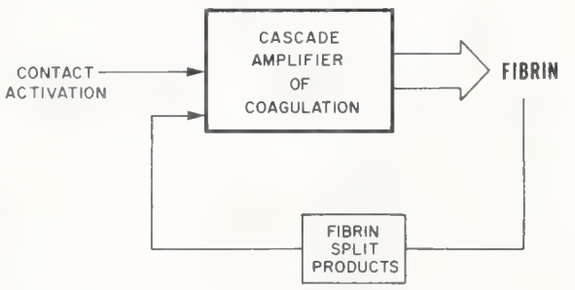
5. A diagram of electronic feedback.



6. Feedback action of thrombin on the "expressor proteins."



7. Feedback action of fibrinolysis on the production of fibrin.



References

1. Hardaway RM: Syndromes of Disseminated Intravascular Coagulation with Special Reference to Shock and Hemorrhage. Springfield, Ill, Charles C Thomas, 1966.
2. Fletcher AP, Alkjaersig N, Sherry S: Pathogenesis of the coagulation defect developing during pathological plasma proteolytic (fibrinolytic) states. J Clin Invest 41:896-916, 1962.
3. Johnson AJ, Merskey C: On the origin of the proteolytic activity responsible for the release of fibrinogen-fibrin related antigen in vitro. Scand J Haemat Suppl 13:87-89, 1970.
4. Steichele DF: Consumption coagulopathy in obstetrics and gynecology. Thromb Diath Haemor Suppl 36:177-194, 1969.
5. Didishein P, Bowie EJ, Owen Jr CA: Intravascular coagulation-fibrinolysis (ICF) syndrome and malignancy; historical review and report of two cases with metastatic carcinoid and with acute myelomonocytic leukemia. Thromb Diath Haemor Suppl 36:215-231, 1969.
6. Goldenfarb PB, Zucher S, Corrigan JJ, et al: The coagulation mechanism in acute bacterial infection. Brit J Haemat 18:643-652, 1970.
7. Perkins HA: Post-operative coagulation defects. Anesthesiol 27:456-464, 1966.
8. Mersky C: Clinical laboratory methods of diagnosis of disseminated intravascular coagulation. Amer Heart Assoc, Thrombosis Symposium, Anaheim (Nov) 1971.
9. Bachman F: The paradoxes of disseminated intravascular coagulation. Hosp Pract 6:113-126, 1971.
10. Macfarlane RG: An enzyme cascade in the blood clotting the mechanism, and its function as a biochemical amplifier. Nature 202:498-499, 1964.
11. Hougie C, Denson KWE, Biggs R: A study of the reaction product of factor VIII and factor IX by gel filtration. Thromb Diath Haemor 18:211-222, 1967.
12. Papahadjopoulos D, Hougie C, Flanahan DJ: Purification and properties of a bovine factor V: A change of molecular size during blood coagulation. Biochem 3:264-270, 1964.
13. Nemerson Y: The reaction between bovine brain tissue factor and factors VII and X. Biochem 5:601, 1966.
14. Jobin F, Esnouf MP: Studies on the formation of the prothrombin-converting complex. Biochem J 102: 666-674, 1967.
15. Honorato R: Human blood serum rich in factor V. Thromb Diath Haemor 23:334-337, 1970.
16. Ozae-Anwar A: Slow activation of factor VIII by thrombin and other enzymes at low temperature. Scand J Haemat 7:5-9, 1970.
17. De Vries A, Cohne I: Hemorrhagic and blood coagulation disturbing action of snake venoms. Recent Adv Blood Coag, Churchill Ltd, p 277, 1969.
18. Farrel F, Laki K: Clotting of bovine fibrinogen by liver transamidase. Blood 35:804-808, 1970.

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Its estrogen, 100 mcg. of mestranol, is relatively
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ethynodiol diacetate, gives it a slight
dominance in progestational activity.
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for balanced profiles,
with normal menstruation

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Each white tablet contains: ethynodiol diacetate 1 mg./mestranol 0.1 mg.
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Enovid-E is an estrogen-dominant pill
with low progestational activity.
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This probably makes Enovid-E the clear
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Actions—Ovulen and Demulen act to prevent ovulation by inhibiting the output of gonadotropins from the pituitary gland. Ovulen and Demulen depress the output of both the follicle-stimulating hormone (FSH) and the luteinizing hormone (LH).

Special note—Oral contraceptives have been marketed in the United States since 1960. Reported pregnancy rates vary from product to product. The effectiveness of the sequential products appears to be somewhat lower than that of the combination products. Both types provide almost completely effective contraception.

An increased risk of thromboembolic disease associated with the use of hormonal contraceptives has now been shown in studies conducted in both Great Britain and the United States. Other risks, such as those of elevated blood pressure, liver disease and reduced tolerance to carbohydrates, have not been quantitated with precision.

Long-term administration of both natural and synthetic estrogens in subprimate animal species in multiples of the human dose increases the frequency of some animal carcinomas. These data cannot be transposed directly to man. The possible carcinogenicity due to the estrogens can be neither affirmed nor refuted at this time. Close clinical surveillance of all women taking oral contraceptives must be continued.

Indication—Ovulen and Demulen are indicated for oral contraception.

Contraindications—Patients with thrombophlebitis, thromboembolic disorders, cerebral apoplexy or a past history of these conditions, markedly impaired liver function, known or suspected carcinoma of the breast, known or suspected estrogen-dependent neoplasia and undiagnosed abnormal genital bleeding.

Warnings—The physician should be alert to the earliest manifestations of thrombotic disorders (thrombophlebitis, cerebrovascular disorders, pulmonary embolism and retinal thrombosis). Should any of these occur or be suspected the drug should be discontinued immediately.

Retrospective studies of morbidity and mortality conducted in Great Britain and studies of morbidity in the United States have shown a statistically significant association between thrombophlebitis, pulmonary embolism, and cerebral thrombosis and embolism and the use of oral contraceptives. There have been three principal studies in Britain[1-3] leading to this conclusion, and one[4] in this country. The estimate of the relative risk of thromboembolism in the study by Vessey and Doll[3] was about sevenfold, while Sartwell and associates[4] in the United States found a relative risk of 4.4, meaning that the users are several times as likely to undergo thromboembolic disease without evident cause as nonusers. The American study also indicated that the risk did not persist after discontinuation of administration and that it was not enhanced by long-continued administration. The American study was not designed to evaluate a difference between products. However, the study suggested that there might be an increased risk of thromboembolic disease in users of sequential products. This risk cannot be quantitated, and further studies to confirm this finding are desirable.

Discontinue medication pending examination if there is sudden partial or complete loss of vision, or if there is a sudden onset of proptosis, diplopia or migraine. If examination reveals papilledema or retinal vascular lesions medication should be withdrawn.

Since the safety of Ovulen and Demulen in pregnancy has not been demonstrated, it is recommended that for any patient who has missed two consecutive periods pregnancy should be ruled out before continuing the contraceptive regimen. If the patient has not adhered to the prescribed schedule the possibility of pregnancy should be considered at the time of the first missed period.

A small fraction of the hormonal agents in oral contraceptives has been identified in the milk of mothers receiving these drugs. The long-range effect to the nursing infant cannot be determined at this time.

Precautions—The pretreatment and periodic physical examinations should include special reference to the breasts and pelvic organs, including a Papanicolaou smear since estrogens have been known to produce tumors, some of them malignant, in five species of subprimate animals. Endocrine and possibly liver function tests may be affected by treatment with Ovulen or Demulen. Therefore, if such tests are abnormal in a patient taking Ovulen or Demulen, it is recommended that they be repeated after the drug has been withdrawn for two months. Under the influence of progestogen-estrogen preparations preexisting uterine fibromyomas may increase in size. Because these agents may cause some degree of fluid retention, conditions which might be influenced by this factor, such as epilepsy, migraine, asthma, cardiac or renal dysfunction, require careful observation. In breakthrough bleeding, and in all cases of irregular bleeding per vaginam, nonfunctional causes should be borne in mind. In undiagnosed bleeding per vaginam adequate diagnostic measures are indicated. Patients with a history of psychic depression should be carefully observed and the drug discontinued if the depression recurs to a serious degree. Any possible influence of prolonged Ovulen or Demulen therapy on pituitary, ovarian, adrenal, hepatic or uterine function awaits further study. A decrease in glucose tolerance has been observed in a significant percentage of patients on oral contraceptives. The mechanism of this decrease is obscure. For this reason, diabetic patients should be carefully observed while receiving Ovulen or Demulen therapy. The age of the patient constitutes no absolute limiting factor, although treatment with Ovulen or Demulen may mask the onset of the climacteric. The pathologist should be advised of Ovulen or Demulen therapy when relevant specimens are submitted. Susceptible women may experience an increase in blood pressure following administration of contraceptive steroids.

Adverse reactions observed in patients receiving oral contraceptives—A statistically significant association has been demonstrated between use of oral contraceptives and the following serious adverse reactions: thrombophlebitis, pulmonary embolism and cerebral thrombosis.

Although available evidence is suggestive of an association, such a relationship has been neither confirmed nor refuted for the following serious adverse reactions: neuro-ocular lesions, e.g., retinal thrombosis and optic neuritis.

The following adverse reactions are known to occur in patients receiving oral contraceptives: nausea, vomiting, gastrointestinal symptoms (such as abdominal cramps and bloating), breakthrough bleeding, spotting, change in menstrual flow, amenorrhea during and after treatment, edema, chloasma or melasma, breast changes (tenderness, enlargement and secretion), change in weight (increase or decrease), changes in cervical erosion and cervical secretions, suppression of lactation when given immediately post partum, cholestatic jaundice, migraine, rash (allergic), rise in blood pressure in susceptible individuals and mental depression.

Although the following adverse reactions have been reported in users of oral contraceptives, an association has been neither confirmed nor refuted: anovulation post treatment, premenstrual-like syndrome, changes in libido, changes in appetite, cystitis-like syndrome, headache, nervousness, dizziness, fatigue, backache, hirsutism, loss of scalp hair, erythema multiforme, erythema nodosum, hemorrhagic eruption and itching.

The following laboratory results may be altered by the use of oral contraceptives: hepatic function, increased sulfobromophthalein retention and other tests; coagulation tests: increase in prothrombin, Factors VII, VIII, IX and X; thyroid function: increase in PBI and butanol extractable protein bound iodine, and decrease in T^3 uptake values; metyrapone test and pregnanediol determination.

References: 1. Royal College of General Practitioners: Oral Contraception and Thrombo-Embolic Disease, J. Coll. Gen. Pract. *13*:267-279 (May) 1967. **2.** Inman, W. H. W., and Vessey, M. P.: Investigation of Deaths from Pulmonary, Coronary, and Cerebral Thrombosis and Embolism in Women of Child-Bearing Age, Brit. Med. J. *2*:193-199 (April 27) 1968. **3.** Vessey, M. P., and Doll, R.: Investigation of Relation Between Use of Oral Contraceptives and Thromboembolic Disease. A Further Report, Brit. Med. J. *2*:651-657 (June 14) 1969. **4.** Sartwell, P. E.; Masi, A. T.; Arthes, F. G.; Greene, G. R., and Smith, H. E.: Thromboembolism and Oral Contraceptives: An Epidemiologic Case-Control Study, Amer. J. Epidem. *90*:365-380 (Nov.) 1969.

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Indication—Enovid-E is indicated for oral contraception.

The *Special Note, Contraindications, Warnings, Precautions* and *Adverse Reactions* listed above for Ovulen and Demulen are applicable to Enovid-E and should be observed when prescribing Enovid-E.

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New criteria for juvenile rheumatoid arthritis

Earl J. Brewer, Jr., MD, Chairman, Criteria Sub-committee, American Rheumatism Associ

A subcommittee to study the possibility of a classification for juvenile rheumatoid arthritis (JRA) was appointed in 1963 by the American Rheumatism Association. The chairman of this committee for three years was Dr. J. Sydney Stillman, followed by Dr. Earl J. Brewer, Jr. The committee is composed of: Earl J. Brewer, Jr., MD, Houston, chairman; Jack C. Bass, MD,* Columbus, Ohio; James T. Cassidy, MD, Ann Arbor, Mich; Benjamin S. Duran, PhD, Houston, statistician; Chester W. Fink, MD, Dallas; Jerry C. Jacobs, MD, New York City; Milton Markowitz, MD, Hartford, Conn; William Reynolds, MD, New York City, ex-officio; Jane Schaller, MD, Seattle; J. Sydney Stillman, MD, Boston; and Stanley L. Wallace, MD, Brooklyn, NY, ex-officio. Three approaches were taken by the committee serially: (1) The committee, exercising clinical judgement and experience, wrote a criteria for classification with exclusions. (2) A survey of clinical manifestations of 249 JRA patients was taken. (3) A prospective study of patients involving 135 JRA children and 100 non-JRA children with rheumatic complaints was done.

Criteria for Juvenile Rheumatoid Arthritis (Classification I)

I. Polyarthritis (two joints or more) or monarticular arthritis of more than three months' duration is sufficient for diagnosis. Any diagnosis listed under exclusions eliminates the patient from consideration. Swelling of a joint must be present to fulfill criteria, or two of three modalities (heat, pain and tenderness, and limitation of motion) must be present. Carpals with wrist, tarsals with ankles and the cervical spine are considered one joint for tabulation purposes.

II. Polyarthritis present more than six weeks should require one of the following manifestations for diagnosis:

Rash of Rheumatoid Arthritis: Rheumatoid rash is an evanescent, salmon-pink, usually circumscribed macular rash varying in size from 2-6 mm for individual lesions. The larger lesions may have a pale center with extreme paleness of the skin on the periphery of the rash.The rash tends to become confluent. It is found predominantly on the chest, axillae, thighs and upper arms and less commonly on the face. It occurs most frequently in patients with high fever, splenomegaly, lymphadenopathy, and leukocytosis. The rash may occasionally precede the onset of arthritis. The rash may be pruritic rarely.

Rheumatoid Factor: Latex fixation and sensitized sheep cell agglutination tests are positive in 15% of patients. Seropositivity increases with age. Positive reactions may also occur in other diseases.

Iridocyclitis: An anterior non-granulomatous uveitis is found in as high as 20% of patients. Eye involvement may be unilateral or bilateral and may be followed by band keratopathy. Onset is characteristically insidious and physical findings may be initially minimal, except for pupillary irregularity. The earliest findings on slit lamp examination are cells in the anterior chamber and precipitates on the posterior surface of the cornea. Band keratopathy is characterized by an opaque, gray band with fenestrations which extends across the midplane of the cornea. Sequelae to these lesions are posterior synechiae with secondary cataracts, secondary glaucoma, or phthisis bulbi. Uveitis should be considered a serious complication and may lead to

*Dr. William Gibson preceded Dr. Bass from 1965 until 1968.

Accepted by the American Rheumatism Association in December, 1971.

blindness. Repeated ophthalmologic examinations should be performed to detect the lesions in the earliest stages.

Cervical Spine Involvement: Pain and limitation of range of motion in the cervical spine occur in at least one-third of patients. Radiologic evidence may occur later in disease without associated symptoms or signs.

Pericarditis: Pericarditis occurs in 10% of children with rheumatoid arthritis and is the principle form of clinical cardiac involvement. It may occur during or after the onset of arthritis, and on rare occasions may precede joint involvement. It is usually associated with other systemic manifestations. Chest pain may herald this complication, but more often patients have no symptoms referable to the heart. The classical signs of pericarditis (friction rub, roentgenographic evidence of pericardial effusion and electrocardiographic changes) are identical with the findings of pericarditis due to other causes. The clinical course is variable and recurrent episodes are uncommon. Complications such as heart failure, cardiac tamponade and constrictive pericarditis may occur.

Tenosynovitis: Tenosynovitis, when it occurs, frequently involves tendon sheaths near the wrists, hands, ankles, and feet.

Intermittent Fever: Any type of fever may be seen in JRA; however, a persistent intermittent fever with diurnal variation from 102-106 F to normal is suggestive of rheumatoid arthritis only if other diseases such as sepsis, leukemia, ulcerative colitis, and systemic lupus erythematosus are excluded.

Morning Stiffness: Many children exhibit stiffness or difficulty of movement after sleep or inactivity that lasts a few minutes to several hours. Stiffness may be elicited only by observation of the child.

Additional Observations

I. Some patients exhibit systemic manifestations before arthritis occurs. These patients may have fever, rheumatoid rash, pericarditis, splenomegaly, lymphadenopathy, weight loss, malaise, laboratory findings listed in II, and minimal or no obvious joint manifestations until later.

II. Additional nonspecific laboratory findings include anemia, extreme leukocytosis and increased acute phase reactants.

III. Subcutaneous Nodules: Subcutaneous nodules occur in JRA, rheumatic fever, systemic lupus erythematosus, and in children with no descernible disease. They occur most conspicuously in areas subject to pressure, such as the hands. Histologically, they appear to be a mixture of those features found in nodules of rheumatic fever and adult rheumatoid arthritis.

IV. Joint Fluid Changes: The fluid is clear to turbid with increased opacity and may clot spontaneously. The total cell count is increased to an average of 15,000/cu mm with a range of 500 to 65,000/cu mm. Polymorphonuclear neutrophilic leukocytes predominate. Bacteria and crystals of monosodium urate or calcium pyrophosphate are not seen. Synovial fluids should be routinely cultured on suitable media for microorganisms. The rheumatoid factor may be present in the synovial fluid and absent in the serum.

V. Joint Biopsy: Synovial biopsy in JRA reveals a nonspecific chronic inflammatory reaction with synovial cell hyperplasia and infiltration of plasma cells and lymphocytes. The chief value of joint biopsy is to rule out tuberculosis, other infectious diseases, and rare lesions, such as pigmented villonodular synovitis. In general, biopsy is not necessary, but in cases of monarticular arthritis in which classification is uncertain, biopsy may be indicated.

VI. Early roentgenographic manifestations consist of soft-tissue swelling, juxta-articular osteoporosis, and periosteal new bone formation. Altered epiphyseal growth, erosions, and ankylosis are late changes.

Exclusions

A. Rheumatic Fever: Polyarthritis in rheumatic fever is rare in children below 3 to 4 years old. Several joints may be affected simultaneously, but more often the symptoms migrate from joint to joint during a period of a few days. Affected joints are swollen and may be hot and red. Tenderness may be a striking characteristic and the slightest pressure may cause excruciating pain. The response to salicylates, although not diagnostic, may be dramatic; even severe joint manifestations subside completely in 48 to 72 hours. In untreated cases, arthritis rarely lasts more than four to six weeks.

The presence of active carditis in patients with polyarthritis makes the diagnosis of rheumatic fever very likely. The majority of children with polyarthritis due to rheumatic fever have serially elevated ASO titers. However, an elevated ASO titer may be found in rheumatoid arthritis.

B. Connective Tissue Diseases: Arthritis is common in children with lupus erythematosus and may be impossible to distinguish from rheumatoid arthritis on the basis of joint findings alone. In general, the arthritis of SLE is less severe and usually transient. Since multisystem involvement of systemic lupus erythematosus appears early, the diagnosis usually is not difficult. LE cells are occasionally present in children with rheumatoid arthritis.

In children with dermatomyositis, limitation of joint motion is usually secondary to muscular atrophy and contractures. However, frank synovitis may occur. Typical skin lesions and muscular weakness usually make it possible to distinguish dermatomyositis from rheumatoid arthritis. In *scleroderma*, stiffness, loss of motion, and contractures may occur in the joints near or beneath the involved skin lesions. Localized scleroderma involving joints may restrict motion, but is not associated with synovitis. Transitory synovitis, arthralgia and pain in the muscles are common in *polyarteritis*.

C. Infectious Diseases:
   1. Pyogenic Arthritis
   2. Sepsis
   3. Viral Diseases
   4. Tuberculosis
   5. Syphilis
   6. Fungal Diseases

D. Allergic Reactions

E. Anaphylactoid Purpura

F. Ulcerative Colitis and Regional Enteritis

G. Neoplastic Diseases:
   1. Leukemia
   2. Lymphoma
   3. Neuroblastoma

H. Hematologic Diseases:
   1. Sickle Cell Anemia
   2. Hemophilia
   3. Thalassemia

I. Trauma

J. Miscellaneous Diseases:
   1. Plasma Cell Hepatitis
   2. Reiter's Disease
   3. Sarcoidosis
   4. Hypogammaglobulinemia
   5. Hypertrophic Osteoarthropathy
   6. Ankylosing Spondylitis
   7. Villonodular Synovitis
   8. Gaucher's Disease
   9. Mucopolysaccharidoses and Bone Dysplasias

K. Psoriasis

Retrospective Survey of JRA Patients

Directors of nine centers selected patients with JRA and completed a retrospective survey to ascertain when the 11 clinical manifestations listed in classification I first occurred. The frequency of each item is tabulated in Fig 1 on 249 patients.

Of these patients, 214 would have been diagnosed in six weeks or less in terms of classification I. Nineteen additional patients would have been diagnosed within three months. Sixteen patients would not have been diagnosed in terms of the criteria by the end of three months, representing a 6% error. The criteria successfully identified 94% of JRA patients within three months.

The 16 patients who would not have been diagnosed within the time stipulated were those patients who had other manifestations of rheumatoid disease in the absence of arthritis. This group included ten patients who developed arthritis three months to one year after onset and six patients who developed arthritis one to five years after onset.

Prospective Study; Computer Analysis of JRA and Non-JRA Patients with Rheumatic Complaints

The purpose of this study was to develop a criteria by utilizing a prospective, multicenter analysis technique.

Specific goals were to reevaluate the initial criteria by prospective analysis; to construct a satisfactory criteria for JRA, which selectively differentiated other childhood disorders with rheumatic complaints; and to attempt a statistical separation of JRA and non-JRA patients with rheumatic complaints by clustering different clinical manifestations.

Two-hundred and thirty-five patients (135 JRA and 100 non-JRA) from 16 centers were examined by center directors, or designated associates during a specified nine-month period and examined again four to six months later. All patients with rheumatic complaints seen by the designated examiner were included. Patients had to be new to the examiner, but not necessarily a new JRA or non-JRA patient with rheumatic complaints. A detailed protocol was observed. Space does not permit inclusion of these forms in this summary.

1. First observed manifestations from time of onset of disease; retrospective survey, 249 patients.

	Total	< 6 Weeks	6 Weeks-3 Mo	3 Mo-1 Yr	1-3 Yr	3-5 Yr	5 Yr
Polyarthritis	242	127 (52%)*	44	29	27	12	3
Monarticular arthritis	87	80 (92%)	4	1	1	1	0
Rheumatoid rash	61	42 (69%)	5	6	5	1	2
Rheumatoid factor	37	9 (24%)	4	9	10	2	3
Iridocyclitis	16	3 (19%)	1	2	5	4	1
Cervical spine involvement	100	32 (32%)	9	23	22	10	4
Pericarditis	19	5 (26%)	0	2	8	3	1
Tenosynovitis	36	8 (22%)	3	5	10	8	2
Intermittent fever	122	104 (85%)	8	6	4	0	0
Morning stiffness	172	107 (62%)	18	26	12	6	3
Subcutaneous nodules	21	9 (43%)	2	5	3	1	1

*Percent of patients with this particular manifestation occurring within six weeks after onset.

Sixty-six different clinical manifestations and 23 laboratory items were recorded. Arthralgia was not recorded. Electrocardiograms and roentgenograms were optional. The examiner made a diagnosis of JRA based on his own experience. The diagnoses of the 100 non-JRA patients are listed in Fig 2.

Laboratory data could not be required in any extensive detail because of the expense factor. There is also remarkable variation in rheumatologists' thinking in regard to the diagnostic value of laboratory procedures. Some centers performed almost all of the listed laboratory, roentgenographic, and electrocardiographic procedures, while others performed almost none of the laboratory procedures. These laboratory data do not reveal any trends toward help in classification, except for the rheumatoid factor tests, particularly the SCAT. Many centers do not perform the SCAT and a separate study would be necessary to establish the validity of this observation.

2. Thirty-three non-JRA diagnoses (100 patients).

Diagnoses	No. Patients
1. Rheumatic fever	17
2. Pyogenic arthritis	8
3. Allergic reaction	7
*4. Arthralgia or synovitis, cause unknown	7
5. Systemic lupus erythematosus	6
6. Dermatomyositis	5
7. Transient "toxic" synovitis	5
8. Unknown disease	4
9. Viral disease	3
10. Ulcerative colitis	3
11. Arthralgia with definite systemic infection or arthritis	3
12. Scleroderma	2
13. Anaphylactoid purpura	2
14. Sickle cell anemia	2
15. Trauma	2
16. Sarcoidosis	2
17. Rheumatoid nodules—no disease—negative rheumatoid factor	2
18. No disease found	2
19. Functional complaints and hysteria	2
20. Tumors—malignant	2
21. Fever of undetermined origin	2
22. Sepsis	1
23. Fungal disease	1
24. Leukemia	1
25. Discitis	1
26. Reticuloendotheliosis	1
27. Chronic constrictive pericarditis	1
28. Flexion contracture of fingers	1
29. Osteomyelitis	1
30. Epiphysitis	1
31. Psoriasis	1
32. Drug-induced lupus (Tridione)	1
33. Tenosynovitis	1
Total	100

*The unknown-cause synovitis patients were deemed non-JRA by the examiners on two occasions, with examinations four to six months apart.

Analysis

I. General: The chief problem in attempting to construct criteria for JRA is reduction of the large number of clinical manifestations. Any objective method utilized in this request should be compatible with sound clinical judgement. A cluster analysis technique, which made use of the qualitative nature of the data (presence-absence data), was used to cluster similar (correlated) items; however, the clusters found by using this objective method did not yield better results than those obtained by subjectively forming clusters of items.

Consequently, sensitivity and specificity of 89 individual manifestations were used to arrive at the classification to be listed. Sensitivity was defined as the percent of JRA patients having a particular manifestation *present*. Specificity was defined as the percent of non-JRA patients having a particular manifestation *absent*. Sensitivity is the likelihood of including JRA patients in a given category and specificity is the likelihood of excluding other diseases. For example, polyarthritis occurred in 108 of 135 JRA patients, and 40 of 100 non-JRA patients. The sensitivity is 80% and specificity 60% for this item.

Unfortunately, individual sensitivities and specificities did not yield a 95% sensitivity and specificity in a single instance.

II. Duration of Disease: An attempt was made to determine whether duration of disease would alter the selectivity for classifi-

cation. No marked differences were apparent when the duration of disease was divided into greater than 3, 6, or 12 weeks. Even when patients were considered with duration of disease of 12 weeks or longer, 41% of the non-JRA population remained along with 73% of the JRA patients, and sensitivity and specificity were not altered significantly when compared to the total group. Too few JRA patients (20) had disease less than six weeks to justify analysis of this group. Contrary to the impression of most clinicians the data revealed that 19% of the non-JRA patients remained even after three months' duration of arthritis. This means that duration of arthritis beyond three months in itself is not helpful in the absence of known exclusions.

III. Combinations of Items: Several hundred combinations of items were considered in an effort to find a significant relationship between JRA patients and controls.

An attempt was made to find joints or a combination of joints that would give both a high sensitivity and specificity. Six commonly involved joints, polyarthritis (as a group), and morning stiffness were examined in every combination (eight items—255 groupings of the eight items). The groupings were done to measure the presence of one or more of the items in the various combinations (not necessarily all of the items present). The highest sensitivity for JRA was 96% and included all eight items; however, corresponding specificity was only 26%. The maximum specificity was 89% and corresponding sensitivity 47% when only one item, the wrist, was used. Combinations of commonly involved joints did improve sensitivity, but because polyarthritis occurred frequently in the non-JRA group with rheumatic complaints, specificity was diminished and little help was obtained in classifying JRA without exclusions.

IV. Symmetrical Joint Involvement:

An attempt was made to establish the selectivity of symmetrical joint involvement. The maximum sensitivity was 50% with a specificity of 84% for the knees. The combined symmetrical joint sensitivity was 70% and specificity was 61%. This means that 70% of all JRA patients have at least one symmetrical joint involved, while 39% of the non-JRA patients had at least one symmetrical joint involved.

A similar comparison of symmetrical joint involvement was made utilizing patients with arthritis of longer than 12 weeks' duration. The combined sensitivity was increased to 81%, but specificity was reduced to 38%.

Symmetrical joint involvement, regardless of disease or arthritic duration, does not occur often enough to be statistically helpful.

V. Number of Joints Involved: An attempt was made to show whether or not the number of joints involved in each patient would be helpful as a classification aid. Patients were studied by cumulative occurrence of joints, per patient, from 1 to 33. A further division was made to study patients with disease of six weeks or longer, or three months or longer. In addition, the material was calculated with regard to the total number of patients (135 JRA and 100 non-JRA) as well as numbers remaining when duration of disease was added as a controlled variable factor. Specificity improved with the number of joints involved. When eight joints or more were involved for six weeks or longer, specificity was 95%. Sensitivity was only 36%, but this mechanism would be helpful if one were interested in eliminating all but 5% of non-JRA patients for study. Elimination of all non-JRA patients would require greater than 11 joints in-

volved for six weeks or longer. There is little to be gained by creating a division at one, two, three, or four joints or greater.
VI. Monarticular Arthritis: Monarticular arthritis (16 JRA and 26 non-JRA) has been considered by some clinicians as a different type of JRA with the implication that systemic manifestations other than iridocyclitis are rare or nonexistent. The data revealed that while systemic manifestations are less frequent in monarticular patients (JRA), systemic occurrence is significantly present. In fact, cardiac, hepatic, lymphatic, pulmonary, and pleural disease occurred in monarticular patients. Of importance also in the retrospective survey is that the vast majority of monarticular JRA patients at onset became polyarticular within a few months. The patients included in the final category of monarticular arthritis had not developed polyarthritis by the time of follow-up four to six months later.
VII. Pericarditis: Many clinicians feel that pericarditis is a definite classification aid in JRA; however, isolated pericarditis does occur in non-JRA patients with viral disease or sepsis and pericarditis occurs along with carditis in rheumatic fever, SLE and other conditions. An attempt was made to use pericarditis as a selective item; however, there were more non-JRA patients (five) than JRA (four) with pericarditis. Conversely, carditis occurred in JRA as well as non-JRA patients.
VIII. Fever: Fever occurs in 70% of JRA patients at one time or another. Intermittent fever or spiking fever as defined in the protocol occurred in 29% of JRA patients and 33% of non-JRA patients. Sixteen percent (22 JRA patients) had fever three weeks or longer and 7% (9 JRA patients) and 4% non-JRA patients had fever six weeks or longer.

Many clinicians think that spiking, intermittent fever lasting longer than six weeks with arthritis is virtually diagnostic

3. Classification II.

Items Used:

1. Arthritis (6 weeks or longer)
2. Rheumatoid rash
3. Iridocyclitis
4. Subcutaneous nodules
5. Morning stiffness
6. Contracture of a joint
7. Tenosynovitis
8. Pericarditis
9. Intermittent fever

Frequency Distribution of Number of Positive Items:

No. of Positive Items	JRA (135 Patients) Frequency	%	Sensitivity	Non-JRA (100 Patients) Frequency	%	Specificity
Arthritis < 6 weeks	38	28.2	100.0	76	76.0	0.0
Arthritis only	11	8.1	71.8	9	9.0	76.0
Arthritis +1 item	28	20.7	63.7	10	10.0	85.0
Arthritis +2 items	31	23.0	43.0	3	3.0	95.0
Arthritis +3 items	16	11.9	20.0	2	2.0	98.0
Arthritis +4 items	10	7.4	8.1	0	0.0	100.0
Arthritis +5 items	1	0.7	0.7	0	0.0	100.0
Arthritis +6 items	0	0.0	0.0	0	0.0	100.0
Arthritis +7 items	0	0.0	0.0	0	0.0	100.0
Arthritis +8 items	0	0.0	0.0	0	0.0	100.0
Totals	135	100.0		100		

of JRA. While 7% of JRA patients (9) had intermittent fever longer than six weeks, 4% of non-JRA patients also were afflicted with fever for more than six weeks (ulcerative colitis, two patients; and systemic lupus erythematosus, two patients).

IX. Lymphadenopathy: Lymphadenopathy occurred in 27% of JRA patients and 28% of non-JRA patients with rheumatic complaints. The epitrochlear node was the most selective site (4 JRA and 0 non-JRA). Cervical and inguinal lymph nodes were least helpful.

X. Iridocyclitis: Iridocyclitis occurred in 4% (six) JRA patients and in 1% (one patient with sarcoidosis) of non-JRA patients. The item was low in sensitivity, but high in specificity.

XI. Subcutaneous Nodules: Subcutaneous nodules occurred in 4% (six) of JRA and 2% of non-JRA patients. Of interest is the fact that five of six JRA patients with subcutaneous nodules had positive rheumatoid factors, while the two non-JRA patients had negative test results.

XII. Laboratory and Roentgenographic Data: Laboratory and roentgenographic data were not included in the analysis for several reasons. Consistent laboratory and x-ray tests were not present even in centers devoted to JRA diagnosis and care. The laboratory seemed to be used mainly for excluding other diseases and monitoring therapeutic programs.

Roentgenographic changes, such as osteoporosis and periostitis, are nonspecific and erosion occurs at a later stage of disease when other clinical manifestations are just as helpful.

Classifications II and III

Classifications II and III (Figs 3, 4) represented inclusion of all items of classification I, plus contracture of a joint, and subjected the nine items used to cumulative

4. Classification III.

Items Used:

1. Arthritis (3 mo. or longer)
2. Rheumatoid rash
3. Iridocyclitis
4. Subcutaneous nodules
5. Morning stiffness
6. Contracture of a joint
7. Tenosynovitis
8. Pericarditis
9. Intermittent fever

Frequency Distribution of Number of Positive Items:

No. Positive Items	JRA (135 Patients)			Non-JRA (100 Patients)		
	Frequency	%	Sensitivity	Frequency	%	Specificity
0	12	8.9	100.0	30	30.0	0.0
1	24	17.8	91.1	50	50.0	30.0
2	43	31.8	73.3	15	15.0	80.0
3	29	21.5	41.5	3	3.0	95.0
4	16	11.9	20.0	2	2.0	98.0
5	10	7.4	8.1	0	0.0	100.0
6	1	0.7	0.7	0	0.0	100.0
7	0	0.0	0.0	0	0.0	100.0
8	0	0.0	0.0	0	0.0	100.0
9	0	0.0	0.0	0	0.0	100.0
Totals	135	100.0		100	100	

sensitivity and specificity calculations. When a patient had arthritis (six weeks or longer) plus one other item (classification II) the sensitivity was 64% and specificity was 85%. This accuracy is considerably less than the 94% sensitivity using the exclusions of classification I. When arthritis was not required as a manifestation, but was instead only one of nine items (classification III), sensitivity was increased at the expense of specificity.

There was considerable difference between patients who had arthritis six weeks or longer and three months or longer. Specificity increased to 88% at the two-item level (arthritis plus one item), but sensitivity was reduced to 55%. When arthritis, three months or longer, was included as one item, but not required to be present, sensitivity was 73% and specificity was 80%.

Utilization of all 66 items in many combinations did not exceed significantly the sensitivity and specificity of classifications II and III. It should be noted that such classification is essentially classification I with no exclusions. If 100% specificity is desired in classification II, arthritis plus four items are necessary, or five items in classification III are necessary. When 100% specificity is achieved, only a small number of patients with JRA remain (7.4%).

Conclusions

Classification I was subjectively conceived by clinicians who felt that the clinical manifestations of JRA were so varied that exclusions would be necessary for a valid classification. While all physicians would like to separate objectively JRA from other rheumatic disorders and omit exclusions, the present state of differential knowledge will not allow such a classification and still have significant sensitivity. The retrospective survey showed that a sensitivity of 94% could be achieved with exclusions when manifestations were present for three months and 86% sensitivity was achieved when manifestations were present for six weeks or longer.

Classifications II and III can be helpful for patient selection in studies that require high specificity and do not need high sensitivity.

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Live attenuated rubella virus vaccine in a private pediatric practice

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A controlled prospective study using lots 51833 and 51834 HPV-77 strain rubella virus vaccine, grown in cell cultures of duck embryo, was performed using patients exclusively from a private pediatric practice. Of the 920 patients vaccinated, most were between 11 months and 9 years of age. In the serologically tested individuals, there was 97.4% conversion as shown by the rubella hemagglutination inhibition determination. There were three instances of totally unexplained seroconversion in the seronegative controls, and three instances of possibly explained seroconversion. Inadvertent immunization, mixing of sera, exposure to wild rubella virus in the community, or "crossover immunization" are among the possible explanations. The vaccine produced no clinically significant side effects, was efficacious in the production of antibody response and was well accepted by guardian and child.

In previous communications, Parkman et al[1,2] and Buynak and associates[3-5] have outlined the development and initial clinical testing of attenuated live rubella virus vaccines. Subsequent to their findings, several clinical trials were initiated, and the results published.[6-10] In general, the vaccine has been found to be effective and safe.

The ravages of an intrauterine fetal infection with rubella are well known,[11-14] and the desirability of having an effective vaccine to prevent such catastrophes from occurring in the future is absolute.

The following study was conducted utilizing the authors' private patients in El Paso, Texas, for purposes of generally expanding the knowledge of the vaccine, and also to determine the possibility of intrafamilial "crossover immunization."

Methods and Materials

Vaccine Utilized: Lots 51833 and 51834 of live attenuated rubella virus vaccine were used. The vaccine was prepared as previously described in reports from the Division of Virus and Cell Biology, Merck Institute for Therapeutic Research,[3,4] using HPV-77 strain rubella virus vaccine grown in cell cultures of duck embryo. Proper tissue culture identification, sterility, neurovirulence safety tests, and tissue culture safety tests were performed in the usual manner prior to the use of the vaccine. The vaccine was in a stable lyophilized form and was stored in a freezer at —20 C prior to use. Immediately before injection, the dry form was reconstituted with 0.7 ml of sterile diluent (water). Subcutaneous injection of 0.5 ml of the reconstituted vaccine was delivered via sterile disposable syringe and needle into the deltoid area, after initial cleansing of the skin with 70% isopropyl alcohol.

Patient Population

The parents of the children in the study groups were initially questioned by mail as to whether they wished their children and/or themselves entered into the program. Each family was used as a vaccination control unit, and there were 459 such family units that responded affirmatively. The study was initiated only after informed written parental consent.

There were 920 vaccinees and 750 controls (291 children, 428 adult women and 31 adult men). Of the vaccinees, 97.5% were between 11 months and 9 years of age.

Study Plan

A "Rubella Vaccination Report Card" was issued to each vaccinee and control (child),

1. Serologic findings for children vaccinated with live rubella virus vaccine.

Vaccination			Initially Seropositive							Initially Seronegative						Extrapolation to Total Group		
			Paired Sera							Paired Sera								
Age (Yr)	No. Vaccinated	No. Serologically Tested	No Rise	2x Rise	>4x Rise	Indeterminate	Total	Pre-Vaccination Sera Only	Total	No. Conversions	No. Failures	Total	Conversion Rate (%)	Pre-Vaccination Sera Only	Total	No. Initially Seropositive	No. Initially Seronegative	No. Conversions
Not Given	1	1					0		0	1		1	100		1		1	1
<1	12	11					0	1	1	7		7	100	3	10	1	11	11
1	102	95		1	2	1	4	5	9	74	3	77	96.1	9	86	10	92	88
2	108	103	1		1	6	8	3	11	76	3	79	96.2	13	92	12	96	92
3	122	117	2	1	4	11	18	2	20	86	1	87	98.8	10	97	21	101	100
4	124	121	3			34	37	4	41	72	3	75	96.0	5	80	42	82	79
5	113	111	1		3	24	28	2	30	79	1	80	98.8	1	81	31	82	81
6	112	111	2	2	3	46	53	8	61	47	1	48	97.9	2	50	62	50	49
7	90	87	1	1	4	38	44	1	45	38		38	100	4	42	47	43	43
8	72	67			2	36	38	6	44	19	2	21	90.5	2	23	47	25	23
9	42	39				22	22	4	26	11		11	100	2	13	28	14	14
10	11	11				7	7	1	8	2		2	100	1	3	8	3	3
11	3	3				2	2		2	1		1	100		1	2	1	1
12	4	4				2	2		2	1		1	100	1	2	2	2	2
13	1	1				1	1		1			0			0	1		
14	1	1					0		0	1		1	100		1		1	1
28	1	1				1	1		1			0			0	1		
29	1	1				1	1		1			0			0	1		
Total	920	885	10	5	19	232	266	37	303	515	14	529	97.4	53	582	316	604	588

and notations by the parent(s) as to possible adverse reactions and daily temperatures (corrected to oral temperature, Farenheit) were written down for 28 days following the start of each study period, and were then returned to the authors for evaluation. The parents were instructed to call either of the two primary investigators if any unusual reaction occurred during the four weeks after immunization.

During the initial visit, the children and their participating guardian were bled for antibody determination by the rubella hemagglutination inhibition technique. The vaccine was administered to all but the youngest child and guardian in each family unit. At the second survey visit, eight weeks later, another phlebotomy was performed on each participant for subsequent antibody testing, and the unvaccinated child received the vaccine. Another blood sample was obtained on the last child eight weeks post-vaccination for antibody determination. All participating family units were assigned a number; for example, in 189/2, the first three digits indicate the family unit and the number following the slash indicates the individual family member.

Results

Age distribution of the 920 vaccinated children is shown in Fig 1. Of the 920 children, 885 were treated serologically. Of the 529 vaccinees that were initially seronegative, 515 or 97.4% converted. Fig 2 shows the serologic data on the 291 control children, 428 adult female controls and the 31 adult male controls.

There were four seroconversions among the seronegative control children from lot no. 51833 and one seroconversion in a seronegative adult female control. From

2. Serologic findings for children and adults acting as contact controls for live rubella virus vaccine.

			Initially Seropositive							Initially Seronegative				
			Paired Sera							Paired Sera				
Age (Yr)	Total No.	No. Serologically Tested	No Rise	2x Rise	>4x Rise	Indeterminate	Total	Pre-Vaccination Sera Only	Total	No. Conversions	No Rise	Total	Pre-Vaccination Sera Only	Total
Children Not Given	3	2					0	1	1			0	1	1
<1	12	12				1	1		1		10	10	1	11
1	72	71		1		3	4	2	6		60	60	5	65
2	61	59	1			2	3		3	1	54	55	1	56
3	59	58	2			4	6	2	8	2	47	49	1	50
4	36	35				6	6	3	9		24	24	2	26
5	18	18				6	6	1	7	1	10	11		11
6	16	16				7	7	1	8	1	7	8		8
7	12	11				5	5	1	6		4	4	1	5
8	1	1					0		0		1	1		1
9	1	1				1	1		1			0		0
Total Children	291	284	3	1	0	35	39	11	50	5	217	222	12	234
	Adult Female Controls													
18-59	428	420	4	1	0	356	361	28	389	1	28	29	2	31
	Adult Male Controls													
25-86	31	30	0	0	0	25	25	4	29	0	0	0	1	1

3. Maximum temperature recordings for the serologically tested population following administration of live rubella virus vaccine.

Maximum Temperature (°F, Oral)	Initially Seropositive — Days Post-Vaccination				Initially Seronegative Pre-Vaccination Sera Only — Days Post-Vaccination				Initially Seronegative Who Converted — Days Post-Vaccination				Initially Seronegative Who Failed — Days Post-Vaccination			
	1-4	5-12	13-18	19-28	1-4	5-12	13-18	19-28	1-4	5-12	13-18	19-28	1-4	5-12	13-18	19-28
< 99	172 (61.9%)*	142 (51.4%)	181 (66.3%)	165 (60.7%)	26 (68.4%)	24 (63.2%)	25 (67.6%)	27 (75.0%)	292 (58.3%)	234 (46.8%)	287 (57.7%)	286 (57.9%)	5 (45.4%)	5 (41.7%)	9 (75.0%)	5 (50.0%)
99-100.9	99 (35.6%)	123 (44.6%)	83 (30.4%)	95 (34.9%)	11 (28.9%)	11 (28.9%)	11 (29.7%)	9 (25.0%)	201 (40.1%)	244 (48.8%)	199 (40.0%)	193 (39.1%)	6 (54.5%)	4 (33.3%)	3 (25.0%)	5 (50.0%)
101-102.9	7 (2.5%)	10 (3.6%)	7 (2.6%)	8 (2.9%)	1 (2.6%)	3 (7.9%)	1 (2.7%)		6 (1.2%)	17 (3.4%)	8 (1.6%)	13 (2.6%)		3 (25.0%)		
103-104.9		1 (0.4%)	2 (0.7%)	4 (1.5%)					2 (0.4%)	5 (1.0%)	2 (0.4%)	2 (0.4%)				
105-106.9											1 (0.2%)					
Not Taken	25	27	30	31	15	15	16	17	14	15	18	21	3	2	2	4
Total Subjects	303	303	303	303	53	53	53	53	515	515	515	515	14	14	14	14

*Percentages are based on temperatures taken per observation period.

4. Clinical complaints for the serologically tested population following administration of live rubella virus vaccine.

Clinical Complaint	Initially Seronegative — Days Post-Vaccination				Initially Seropositive Pre-Vaccination Sera Only — Days Post-Vaccination				Initially Seronegative Who Converted — Days Post-Vaccination				Initially Seronegative Who Failed — Days Post-Vaccination			
	1-4	5-12	13-18	19-28	1-4	5-12	13-18	19-28	1-4	5-12	13-18	19-28	1-4	5-12	13-18	19-28
Upper respiratory illness	14 (4.9%)*	16 (5.6%)	10 (3.5%)	14 (4.9%)	3 (7.3%)	3 (7.3%)	1 (2.4%)	1 (2.4%)	21 (4.1%)	38 (7.4%)	23 (4.5%)	26 (5.1%)				
Pneumonia	1 (0.3%)															
Otitis	2 (0.7%)	1 (0.3%)	3 (1.0%)	1 (0.3%)						3 (0.6%)	2 (0.4%)	3 (0.6%)	1 (7.7%)			

Lymphadenopathy		3 (1.0%)	1 (0.3%)							1 (0.2%)						
Conjunctivitis		2 (0.7%)														
Gastrointestinal	3 (1.0%)	5 (1.7%)	4 (1.4%)	3 (1.0%)					9 (1.8%)	10 (2.0%)	8 (1.6%)	13 (2.5%)				
Abdominal cramps (nonmenstrual)									1 (0.2%)							
Rash—not rubella	1 (0.3%)	4 (1.4%)	2 (0.7%)	2 (0.7%)		1 (2.4%)			2 (0.4%)	1 (0.2%)	1 (0.2%)			1 (7.7%)		
—cause unknown	5 (1.7%)	7 (2.4%)	2 (0.7%)	2 (0.7%)	2 (4.9%)	1 (2.4%)	1 (2.4%)		8 (1.6%)	24 (4.7%)	5 (1.0%)	4 (0.8%)				
Local reaction injection site	2 (0.7%)	2 (0.7%)							1 (0.2%)							
Headache	4 (1.4%)	7 (2.4%)	1 (0.3%)	5 (1.7%)					3 (0.6%)	2 (0.4%)	1 (0.2%)					
Irritability	1 (0.3%)	1 (0.3%)							8 (1.6%)	4 (0.8%)						
Malaise				1 (0.3%)					1 (0.2%)	5 (1.0%)						
Dizziness	1 (0.3%)											3 (0.6%)				
Undiagnosed illness						1 (2.4%)										
Irrelevant	1 (0.3%)	2 (0.7%)	1 (0.3%)						4 (0.8%)	3 (0.6%)	8 (1.6%)	3 (0.6%)				
Anorexia					1 (2.4%)				1 (0.2%)							
Musculoskeletal				1 (0.3%)												
Genitourinary infection			1 (0.3%)													
Swelling of face									1 (0.2%)			1 (0.2%)				
Viral infection			1 (0.3%)	1 (0.3%)								1 (0.2%)				
Flush										1 (0.2%)						
Allergy			1 (0.3%)	1 (0.3%)					1 (0.2%)	2 (0.4%)	2 (0.4%)	1 (0.2%)				
No complaint	254 (88.2%)	243 (84.4%)	263 (91.3%)	261 (90.6%)	35 (85.4%)	35 (85.4%)	39 (95 1%)	40 (97.6%)	457 (89.2%)	427 (83.4%)	462 (90.2%)	463 (90.4%)	12 (92.3%)	12 (92.3%)	13 (100%)	13 (100%)
Physician's surveillance negative	15	15	15	15	12	12	12	12	3	3	3	3	1	1	1	1
Total subjects	303	303	303	303	53	53	53	53	515	515	515	515	14	14	14	14

*Percentages based on total subjects with reports.

lot no. 51834, there was one seroconversion among the seronegative control children. Hence, there were five contact control children and one mother with unexplained antibody responses. Two of the children were in contact, in their families, only with vaccinated siblings, who were shown to be immune prior to vaccination. Contact transmission could hardly have occurred under these circumstances, and it would appear that other factors might have occurred to account for the antibody rises. One of the contact children (127/2) gave a blood type A in the first serum specimen and a blood type B in the second serum specimen. The other five contacts under question gave the same blood type on both the first and second sera. The controls might have been vaccinated inadvertently, the serum might have been mixed inadvertently or the controls exposed to wild rubella virus in the community. The other alternative is "crossover immunization."

Maximum temperature recordings for the serologically tested population in degrees Farenheit (corrected to oral) are shown in Fig 3. Significant temperature elevation of 101 F or more was essentially no greater than that experienced in a similar live attenuated mumps virus vaccine survey.[15] A small number of the vaccinees' temperatures were not recorded as requested.

In Fig 4 are tabulated the complaints reported by the parents in the total serologically tested population. There was no increase of complaints over those during a similar survey made with live attenuated mumps virus vaccine.[16]

The accumulated data in this report seem to indicate that the HPV-77 strain rubella virus vaccine grown in cell cultures of duck embryo tissue produces an essentially safe vaccine that is effective in producing antibody response. The vaccine was well received by parents and children.

References

1. Parkman PD, Meyer HM Jr, Kirschstein RL, et al: Attenuated rubella virus. I. Development and laboratory characteristics. New Eng J Med 275:569-574, 1966.
2. Meyer HM, Parkman PD, Panos TC: Attenuated rubella virus: II. Production of an experimental live-virus vaccine and clinical trial. New Eng J Med 275:575-580, 1966.
3. Buynak EB, Hilleman MR, Weibel RE, et al: Live attenuated rubella virus vaccines prepared in duck embryo cell culture: I. Development and clinical testing. JAMA 204:195-200, 1968.
4. Weibel RE, Stokes J Jr, Buynak EB, et al: Live attenuated rubella virus vaccines prepared in duck embryo cell culture. II. Clinical tests in families and in an institution. JAMA 205:554-558, 1968.
5. Hilleman MR, Buynak EB, Weibel RE, et al: Live attenuated rubella virus vaccine. New Eng J Med 279:300-303, 1968.
6. Meyer HM, Parkman PD, Hobbins TE, et al: Clinical studies with experimental live rubella virus vaccine (strain HPV-77). Evaluation of vaccine-induced immunity. Amer J Dis Child 115:648-654, 1968.
7. Detels R, Kim KSW, Gutman L, et al: Live attenuated rubella virus vaccine given in an orphanage just prior to a rubella epidemic. JAMA 207:709-712, 1969.
8. Grayston JT, Detels R, Chen KP, et al: Field trial of live attenuated rubella virus vaccine during an epidemic on Taiwan. Preliminary report of efficacy of three HPV-77 strain vaccines in the prevention of clinical rubella. JAMA 207:1107-1110, 1969.
9. Veronelli JA: An open community trial of live rubella vaccines. Study of vaccine virus transmissibility and antigenic efficacy of three HPV-77 derivatives. JAMA 213:1829-1836, 1970.
10. Roth A: Rubella vaccine trial in children in Hawaii. Hawaii Med J 29:561, 1970.
11. Phillips, CA, Melnick JL, Yow MD, et al: Persistence of virus in infants with congenital rubella and in normal infants with a history of maternal rubella. JAMA 193:1027-1029, 1965.
12. Sever JL, Nelson KB, Gilkeson MR: Rubella epidemic, 1964: effect on 6,000 pregnancies. Amer J Dis Child 110:395-407, 1965.
13. Katz RG, White LR, Sever JL: Maternal and congenital rubella. Clin Pediat 7:323-330, 1968.
14. Maternal rubella. JAMA 208:1484-1485, 1969.
15. Nickey LN, Huchton P, McGee G: Live virus mumps vaccine in pediatrics. Tex Med 64:63-65, 1968.
16. Nickey LN, Huchton P, McGee WG: Jeryl Lynn strain live attenuated mumps virus vaccine in a private pediatric practice. Southern Med J 63:306-308, 1970.

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Friday, May 4, 12:30 p.m., Fairmont Hotel. Featured speaker will be Carl A. Hoffman, M.D., President, American Medical Association, Huntington, West Virginia.

GENERAL MEETING LUNCHEON
Saturday, May 5, 12:30 p.m., Fairmont Hotel. Featured speaker will be Irvine H. Page, M.D., Editor, **Modern Medicine; The Journal of Diagnosis and Treatment,** Cleveland, Ohio.

SATURDAY NIGHT AT THE FAIRMONT
A fun Saturday featuring cocktails, dinner, dancing, entertainment. Saturday, May 5, 7 p.m.

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Friday, May 4 and Saturday, May 5, 8:15-9:30 a.m., Fairmont Hotel. There is no charge, but attendance is limited and tickets necessary. Have coffee and rolls with a guest speaker, then participate in an informal discussion period.

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GENERAL MEETING LUNCHEON SPEAKERS

CHARLES A. "CARL" HOFFMAN, M. D., President
American Medical Association
Huntington, West Virginia

IRVINE H. PAGE, M. D., Editor
Modern Medicine; The Journal of Diagnosis and Treatment
Cleveland, Ohio

CONTINENTAL BREAKFAST PRESENTATIONS

Friday, May 4, 8:15-9:30 a.m.

1. HAND PAIN
   Jerome E. Adamson, M. D.
   Norfolk, Virginia

2. AFTER THE MYOCARDIAL INFARCT IS HEALED
   John L. Boyer, M. D.
   San Diego, California

3. PERINEAL ABSCESS—FISTULA OR NOT?
   Alejandro F. Castro, M. D.
   Rockville, Maryland

4. ELECTROLYTE DISORDERS
   John H. Dirks, M. D.
   Montreal, Canada

5. IDIOPATHIC HEMATURIA—SURGICAL VIEWPOINT
   Ruben F. Gittes, M. D.
   San Diego, California

6. DIAGNOSIS OF MUSCLE WEAKNESS IN INFANTS AND SMALL CHILDREN
   Ernest W. Johnson, M. D.
   Columbus, Ohio

7. SPONTANEOUS RUPTURE OF ESOPHAGUS—A DEATH TRAP
   Emil A. Naclerio, M. D.
   New York

8. THE FAMILY OF THE ALCOHOLIC
   Maxwell N. Weisman, M. D.
   Baltimore

Saturday, May 5, 8:15-9:30 a.m.

9. GENERAL ANESTHESIA FOR CESAREAN SECTION
   Marion A. Carnes, M. D.
   Davis, California

10. PITFALLS IN NEONATOLOGY
    Donal Dunphy, M. D.
    Iowa City, Iowa

11. HYPOGLYCEMIA
    Frederick C. Goetz, M. D.
    Minneapolis

12. IMPOTENCE
    Donald W. Hastings, M. D.
    Minneapolis

13. LUNG FUNCTION IN PNEUMONIA
    Roland H. Ingram, Jr., M. D.
    Atlanta

14. PHACO–EMULSIFICATION–FULL ACTIVITY AFTER CATARACT EXTRACTION
    Richard P. Kratz, M. D.
    Van Nuys, California

15. MAKING SENSE OUT OF THYROID RADIOISOTOPE TESTING
    James L. Quinn, III, M. D.
    Chicago

16. CONIZATION OF CERVIX?
    Duane E. Townsend, M. D.
    Los Angeles

THE CHANGING FACE OF TEXAS MEDICINE

A discussion of the Legislative hearings on the amendments to the Medical Practice Act dominated the pages of the *Texas State Journal of Medicine* (now *Texas Medicine*) in February, 1923.

The bill, as has been noted before on this page, proposed penalties for violation of the act as well as an injunction which would prevent those accused of violation of the act from practicing medicine until they had been tried. A hearing before the joint health committees of the Senate and House was held Jan. 25, with optometrists and Christian Scientists appearing to speak against the amendments. No chiropractors appeared because that group was sponsoring a bill of its own which would establish a separate state board of chiropractic examiners.

The editor summed up the testimony of each person who appeared before the committee, saying of the Christian Scientists' spokesman, "He did not say what would be his views should a church aspire to worship God by direct rather than indirect means of human sacrifice.

"Then followed a christian science experience meeting, which was finally stopped by their own leaders, when it became evident that the impression being made was the reverse of that which they sought. The usual, typical, and to the medical profession, well-known testimonials were given in the manner and style also typical and well known."

Both the Senate and House Committees reported the bill favorably, with no minority report from either committee.

Most opposition to the Medical Practice Act amendments concerned the injunction feature. The editor pointed out that, "It has been found that, where the violation of a criminal statute itself constitutes a business, ordinary fines are inadequate to enforce the statute. There are at least one-third as many illegal practitioners of medicine in Texas as there are legal practitioners. This demonstrates the inefficiency and ineffectiveness of the enforcement features of the present act."

The editor also noted that laws concerning bawdy houses, pool halls, liquor sales and "bucket shops" all had injunction features.

■ The chiropractic bill was considered by the same two committees five days later. The editor quotes one of the proponents of the bill as saying at the hearing:

"The injunction feature of the new Medical Practice Act will put the chiropractors out of business. The Legislature is urged to kill this bill; if that is not possible, it is urged to exempt the chiropractors and the christian scientists from its operations. It is unfair to make the chiropractors and christian scientists pass the examination required. They do not need to know branches of science with which they are not concerned. The Board of Medical Examiners is in the hands of persons who have no sympathy with either the christian scientists or the chiropractors. If the medical practice act bill is passed, the public will witness the worst fight for medical liberty it has ever seen."

The House committee reported the bill unfavorably, and the Senate committee had not yet reported at the time the *Texas State Journal of Medicine's* account was written.

■ Another article in the February issue dealt with the topic, "What is Insulin?". "*Insulin,*" said the article, "is given entirely by hypodermic injection, and Dr. Banting [Dr. F. G. Banting of Toronto] believes its effect to be only temporary—never lasting longer than eight or ten hours. Injection is given usually three hours before feeding, and never more than three or four times a day. It is to be used at present only for severe cases of diabetes, and with the utmost caution. It is an extremely powerful agent and demands even more *accurate quantitative diets than are used without it!* The great danger lies in producing coma and convulsions due to hypoglycemia, which is readily produced by withholding an adequate amount of food after an injection of *Insulin*. Much harm can be caused by the use of this active principle in conjunction with *inaccurate* diets or in the absence of extremely close observation.

"Some striking results have been produced by the use of *Insulin* and without question, much more will be done; but we urge the profession at large to approach the question with conservatism and to avoid indiscriminate use of this wonderful therapeutic agent until experience has demonstrated more exact knowledge of its possibilities and limitations."

Medicine meets government at Legislative Seminar

"You've got more to lose than any other group in this state by not knowing what's going on," Sen. H. J. "Doc" Blanchard told assembled TMA members at the 1973 Legislative Seminar.

"Of all the groups in this state that have something to protect, you've got it," said Rep. James E. Nugent of Kerrville.

The 12 Texas legislators laid it on the line for the participants in the Jan. 20 meeting, and physicians listened, questioned, and responded with standing ovations after each of the three panel sessions.

Legislators spoke on topics ranging from the preparation of a bill and its progress through the state Legislature to how organizations such as TMA can be effective in influencing legislation. In the process, they gave physicians some useful tips on how to communicate with the legislator, how to get information on pending legislation, and how to help the candidate in a political campaign.

The one thing that all the speakers emphasized was that the physician, in order to make his views known, must know his senator or representative. Physicians were urged to write, call, and become acquainted with the legislator *before* a legislative session begins. By establishing a working relationship prior to the session, panelists said the citizen will have a better chance of making his views heard in Austin.

Once the physician has gotten to know his senator or representative, the panelists said he must know how to communicate with the legislator. Some of the tips they gave included:

Know how to write your legislator. Letters should be concise and as brief as possible, but they should include concrete reasons why one is for or against an issue or bill. Which parts do you oppose? Which do you favor? Why?

Know your legislator's address both in and out of session. Know his home phone and address as well as his office number and address both in Austin and in his home town.

Don't use telegrams to communicate with your senator or representative. The consensus is that telegrams are no longer the efficient, dependable means of communication they once were. The telephone is now the best means of rapid communication.

Communicate with your legislator directly whenever possible. During the early days of a legislative session, panelists said it is usually possible to reach them by phone or letter, or to leave a message for them to return a call. During the last days of the session, especially during the "crush week," it is usually advisable to talk with anyone you can reach and leave a message.

Finally, legislators urged physicians to know what they are talking about before they call or write about a proposed law. They recommended getting copies of bills, reading them over, and noting which sections one specifically opposes or favors. Sometimes, panelists said, it is easier to get an offending section removed from a bill than to defeat the entire proposal.

In response to this advice, seminar participants asked the panelists how to get information on bills, committee hearings, and actions taken. All of the panelists offered to supply copies of bills to any citizens requesting them and a few legislators offered to have

TMA Assistant General Counsel Ace Pickens anl Rep. Jim Nugent, Kerrville, listen as a guest makes a point.

their staff keep the physician posted on the progress of any specific proposal.

In addition to communicating directly with the senator or representative about information, legislators advised physicians to maintain contact with the TMA General Counsel, Philip Overton. Mr. Overton told the audience that his office subscribes to the Texas Legislative Service, which provides a complete accounting of legislative activities. Information from this service is available from the TMA office upon request.

Finally, panelists advised physicians to watch the daily press for notices of committee hearings, proposals, and actions taken; and to pay attention to communications from their professional association for notice of matters of specific medical interest.

Legislators said there are many other ways in which the citizen can make his voice heard at the Capitol. "The committee system is where the work is done." Sen. A. M. Aiken, Jr., of Paris, told the audience. "It is the one area of legislative procedure where the citizen can be heard."

Any citizen may appear before a committee simply by being there and telling the chairman he wishes to speak. Again, physicians may find out when and where hearings are to take place from their senator or representative and from the TMA general counsel. It is even more important to know what you are going to say and to have your facts in hand when you appear before a committee, the panelists said, than when making routine contacts with individual legislators.

Another very effective way of influencing legislation is through the professional or trade association. All the legislators had high praise for the Texas Medical Association and TMA General Counsel Overton. Many times, they said, they turn to associations such as TMA for information on bills which deal with specialized areas such as medicine. Sen. W. T. "Ben" Moore, of Bryan said, "Associations are absolutely necessary to the legislative process."

Sen. W. N. "Bill" Patman, Ganado, gave as an example the way TMA representatives had helped to influence passage of immunization laws in 1971. TMA members, especially Dr. Sam Nixon of Floresville, were instrumental in providing legislators with the information needed to convince them that compulsory immunizations were necessary.

In the end, however, influencing legislation is an individual responsibility said Rep. Nugent. Physicians were advised to begin by helping candidates they favor in campaigns. Many of the panelists noted that although the medical profession as a group may not be as influential as in the past, the individual physician is still a highly-respected member of the community whose endorsement can carry considerable weight in an election.

Rep. Charles A. Finnell of Holliday says one of the biggest obstacles to effective participation in the political process is the feeling that politics is "dirty." "Put that out of your mind," said Rep. Finnell, "and you will have won half the battle." Mr. Overton echoed Finnell's advice. "Don't be ashamed to get involved in politics," he said.

By "getting involved," legislators stressed that they didn't just mean

Sen. H. J. "Doc" Blanchard, Lubbock, greets an acquaintance.

that the physician should contribute to a campaign. They urged physicians to become actively involved and to get their families involved as well.

Legislators who participated in the panel sessions, in addition to Sens. Blanchard, Aiken, Patman and Moore; and Reps. Nugent and Finnell, were Rep. L. DeWitt Hale, Corpus Christi; Rep. Tom Craddick, Midland; Sen. Tom Creighton, Mineral Wells; Sen. Don Adams, Jasper; Sen. Max Sherman, Amarillo; and Rep. David Finney, Fort Worth.

All the seminar participants noted that 1973 will probably be an important year for medicine on the legislative front. Physicians in every state are being urged to interest themselves in legislative matters.

Mr. Overton, in a brief, but effective speech at the end of the seminar, drove the message home. He encouraged physicians to "keep faith" with the legislators who have been friendly to medicine, to talk to them, give them money, and to support them in every way possible.

Texas physicians listened.

Legislators wait to address Seminar audience. They are, left to right, Sen. Patman, Rep. Finnell, Rep. Craddick and Sen. Moore.

An overflow crowd at the Joe C. Thompson Conference Center listens to a guest speaker.

Rep. L. DeWitt Hale, Corpus Christi, ponders a question posed by a Legislative Seminar participant.

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QUESTIONS/ANSWERS

EDITOR'S NOTE: Our guest expert for this month is Seymour Petrovsky, consultant to Pension Funds of Arizona in Phoenix. Mr. Petrovsky was a guest speaker at the Association's September Conference on Practice Management.

Q Can vesting be applied to a profit-sharing plan, a will, or a pension plan?
A Yes. Vesting requirements in pension plans and profit-sharing plans are quite similar and can be employed to operate in the same fashion. As an example, if a participant in either plan served three full years as an employee/participant in the plan and terminated his employment (quitting of his own free will or being terminated), he would be entitled to a percent—30%, for example—of the monies held to his account. The remaining amount (70% in this case) would become a forfeiture and, in the case of a profit-sharing plan, would be reallocated to the accounts of the surviving participants, and, in the case of a pension plan, would be used to reduce future contributions by the employer.

Q How long do professional employees need to wait to be incorporated in the retirement plan?
A There is no specific waiting period other than the general rule that professional employees and non-professional employees must be treated equally with regard to meeting the plan eligibility rules. In other words, you do not want to discriminate in favor of professional employees, or the plan would not meet with the approval of the Internal Revenue Service.

As an example, a group of physicians could incorporate on Jan. 1 and establish their retirement plan on Feb. 1 if they desire, so long as they do not restrict other non-professional employees who have been there one month from entering the plan on Feb. 1.

The Internal Revenue Service, however, does permit other requirements to be eligible to enter. For example, the plan may require that participants be between a maximum and minimum age, say from 20 to 55. The result of such a stipulation in a retirement plan would permit all employees (professional and non-professional) to enter the plan so long as they were at least age 20 and not over age 55.

In addition, any employee who works less than 20 hours per week and 5 months per year is considered a part time employee and is not eligible to enter the plan until such time as he or she would be considered a full time employee.

Q Where is the best place to find information on financial planning—pension and profit-sharing plans, investments and so on? Are there any books or magazines which you would recommend?
A There are three excellent texts which, in this writer's opinion, could be used for research and guidance. They are *Pension Planning*, by J. J. Melone and E. T. Allen, Jr., revised edition 1972, published by Richard D. Irwin, Inc., Homewood, Ill.; *Fundamentals of Private Pensions*, by Dan M. McGill, second edition, published by Irwin; and *Investments: Principles, Practices, Analysis*, by Douglas H. Bellemore and John C. Richie, Jr., third edition, published by Southwestern Publishing Co., Cincinnati, Ohio. These three texts are written on a college level and make excellent research and information available on their respective topics.

There are two excellent magazines available to the general public which deal specifically with finances, taxation, and pensions. The *Journal of Taxation* is published monthly by the Tax Research Group, Inc., 512 North Florida Ave., Tampa, Fla. 33602; and *Pension and Welfare News* is published monthly by Communication Channels, Inc., 461 Eighth Ave., New York, New York 10001.

Q Does a bonus plan in an employment contract made prior to wage price guidelines exempt one from the 5.5% increase in total salary and bonus?
A Yes. However, you must be aware of certain stipulations of the stabilization regulations which must be met. First, and specifically, there must be reduced to writing and signed by both the employer and the employee, the stipulation that a contract is a bona fide employment contract. The fact that the minutes of a Board of Directors meeting would reflect the fact is not sufficient.

If the contract is a bona fide one and was entered into prior to Nov. 14, 1971, it would meet the definitions and regulations as spelled out in the stabilization regulations under Section 201.72 (f). If this definition is met in accordance with Section 201.35, the employment contract would permit the employer to pay the stipulated bonus according to the terms of the plan and this would, accordingly, permit the corporation to continue to give up to the maximum 5.5% increase in additional salaries.

(Since this question was posed, freeze guidelines are no longer under Phase II, but Phase III. Since Phase III guidelines have not been fully delineated for the public, you are advised to check with your own attorney.)

This section is a forum for your questions on medicolegal, socioeconomic, medical, and miscellaneous matters. You are invited to submit questions which will be presented to appropriate consultant-experts for comment. Publication will be determined by established journal policy. Letters should be signed but names will be withheld upon request. Address questions to TEXAS MEDICINE, 1801 N. Lamar Blvd., Austin, Tx. 78701.

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MEDICINE IN LITERATURE

Symposium on Aesthetic Surgery of the Face, Eyelid, and Breast, vol. 4, F. W. Masters, and J. R. Lewis, Jr., 222 pp., illus., St. Louis, C. V. Mosby, 1972, $35.50.

ONE OF A SERIES planned to present a detailed study of cosmetic surgery, this volume deals with procedures of the breast, face, and eyelid.

The highly specialized nature of the procedures will limit the appeal of the book primarily to aesthetic and general plastic surgeons. Each area is dealt with in sufficient detail, however, to make the work an excellent source book for the occasional operator in these areas as well.

History, physiology, and anatomy, together with accepted standard procedures are detailed for each of the anatomic areas presented. Frank discussion of possible complications should markedly decrease their incidence—"forewarned is forearmed." Diagrams are sufficiently numerous and complete for the volume to be used in explaining details of any procedure to patients.

Adequate information in all areas has been presented in a concise manner. The editors and the individual authors are to be commended for the quality of this work.

WILLARD C. SELLMAN, JR., MD
Dallas

Symposium on Myelomeningocele, American Academy of Orthopaedic Surgeons, 317 pp., 216 illus., C. V. Mosby, St. Louis, 1972, $24.

THE CONTENTS of this volume are drawn from papers, exhibits, and round-table discussions given at the course on myelomeningocele produced by the Committee on the Care of the Handicapped Child of the American Academy of Orthopaedic Surgeons.

Topics covered are embryology, pathology, and evaluation of potential; evaluation and treatment of neurospinal lesion at birth; hydrocephalus associated with myelomeningocele; pathology and paralytic aspects of the urinary tract and the lower bowel; orthopedic and developmental problems; infection; and the future of patients with myelomeningocele.

The material is presented to bring an up-to-date overview of the philosophy, treatment, methods, technique, and general understanding of problems encountered in the management of patients with myelomeningocele and related disorders. It should be of especial interest to orthopedic surgeons, pediatricians, neurosurgeons, urologists, and allied health professionals concerned with the care of these patients.

Handbook of Medical Treatment, 13th ed., Milton J. Chatton, 648 pp., Lange Medical Publications, Los Altos, Calif., 1972, $6.50.

SINCE THE FIRST edition of this **Handbook** appeared in 1949, the advances in medical therapy have been phenomenal. The list of important drugs which are now widely used, but which were unavailable at that time is indeed impressive—to mention only a few: isoniazid, corticosteroids, tranquilizers, poliomyelitis vaccine, oral diuretic drugs, levodopa, and many antibiotic, antiparasitic, and antineoplastic drugs.

In this 13th edition, the authors have reviewed a vast amount of medical literature and have endeavored to incorporate innovations in medical therapy within a book of this size by deleting some of the less common disorders as well as most of the limited diagnostic information contained in previous editions.

The authors have been careful to recommend those drug dosages that are in agreement with current official pharmacologic standards and responsible medical literature.

The **Handbook** will be a useful addition to the up-to-date medical library.

IN THE TMA LIBRARY

Beard, Crowell, and Quickert, M. H.: *Anatomy of the Orbit*, Aesculapius Publishing Co., Birmingham, Ala., 1969.

Cope, C. L.: *Adrenal Steroids and Disease*, 2nd ed., J. B. Lippincott Co., Philadelphia, 1972.

Gardiner, Peter, Mac Keith, Ronald, and Smith, Vernon, eds.: *Aspects of Developmental and Paediatric Ophthalmology*, Spastics International Medical Publications, London, 1969.

Holling, H. E.: *Peripheral Vascular Diseases*, J. B. Lippincott Co., Philadelphia, 1972.

Clark, R. Lee, et al., eds.: *Proceedings of the Tenth International Cancer Congress*, five vols., Yearbook Medical Publishers, Inc., Chicago, 1971.

International Cancer Congress: *Abstracts of the Tenth International Cancer Congress*, Medical Arts Publishers, Houston, 1970.

International Symposium on Vectorcardiography: *Vectorcardiography 2; Proceedings of the XI International Symposium*, J. B. Lippincott Co., Philadelphia, 1971.

John E. Fogarty International Center for Advanced Study on the Health Sciences: *Status of Immunization in Tuberculosis in 1971*, US Department of Health, Education and Welfare, Washington, 1972.

Frykman, J. H.: *A New Connection; an approach to persons involved in compulsive drug use*, The Scrimshaw Press, San Francisco, 1971.

Manaka, Yoshio, and Urquhart, I. A.: *A Layman's Guide to Acupuncture*, Weatherhill, New York, 1972.

Maxwell, M. H., and Kleeman, C. R., eds.: *Clinical Disorders of Fluid and Electrolyte Metabolism*, 2nd ed., McGraw-Hill Book Co., New York, 1972.

Moore, W. M., Silverberg, M. M., and Read, M. S., eds.: *Nutrition, Growth, and Development of North American Indian Children*, US Department of Health, Education and Welfare, Washington, 1972.

Mustarde, J. C., Jones, L. T., and Callahan, Alston: *Ophthalmic Plastic Surgery—Up-To-Date*, Aesculapius Publishing Co., Birmingham, Ala., 1970.

Potchen, E. J., ed.: *Current Concepts in Radiology*, C. V. Mosby Co., St. Louis, 1972.

Roland, C. G., ed.: *Good Scientific Writing; an anthology*, American Medical Association, Chicago, 1971.

Rand, R. W.: *Microneurosurgery*, C. V. Mosby Co., St. Louis, 1969.

Roy, W. R.: *The Proposed Health Maintenance Organization Act of 1972*, The Science and Health Communications Group, Washington, 1972.

Schaefer, George: *The Expectant Father*, Barnes and Noble Books, New York, 1972.

Books listed and reviewed in this section are available in the TMA Memorial Library, 1801 N. Lamar Blvd., Austin 78701. Guidelines for book reviewers also are available from the Library.

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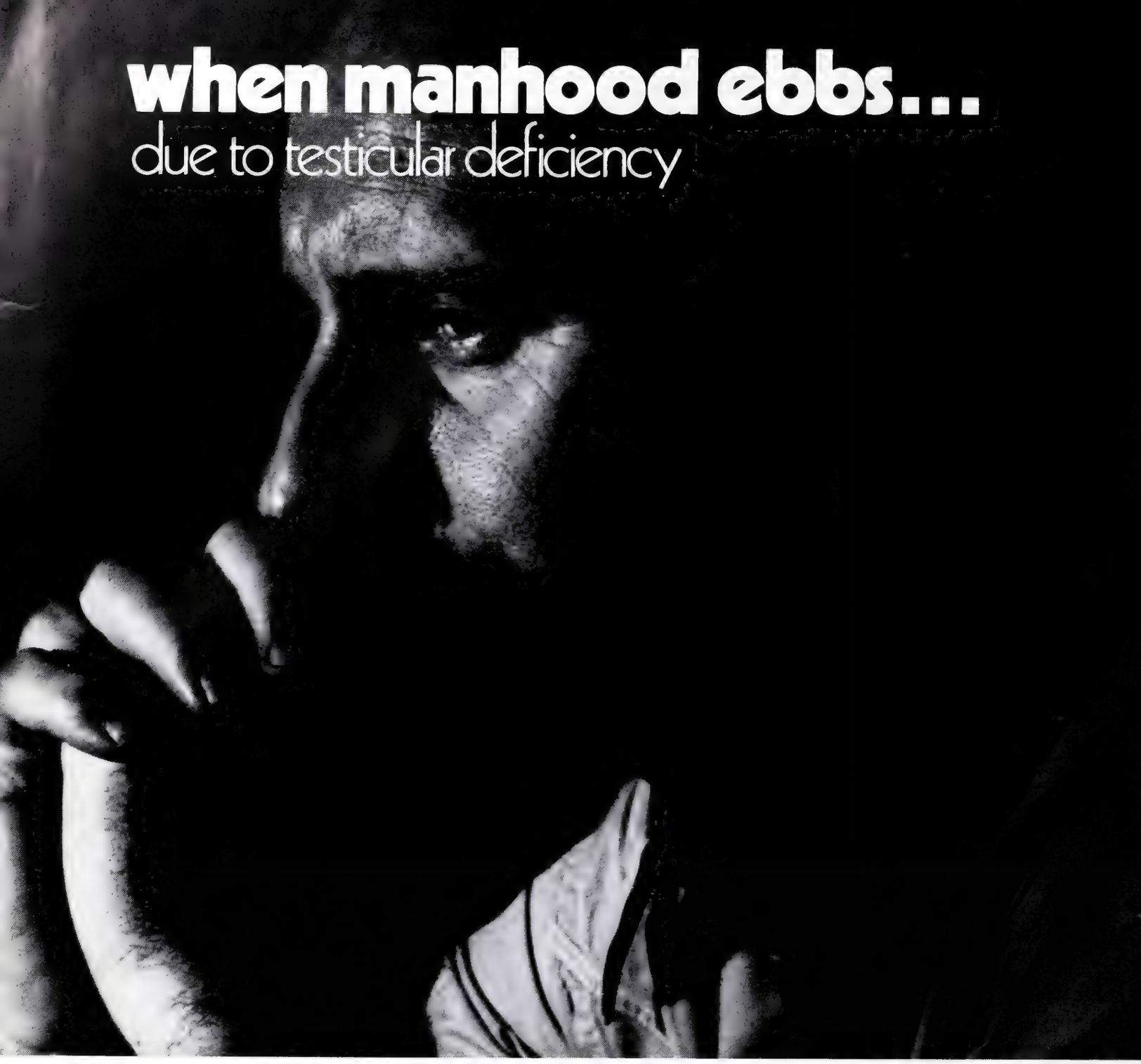

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PERSONALS

Former Texas Gov. Preston Smith made five new appointments and six re-appointments to the State Health Advisory Committee before leaving office in January.

New members are: Dr. Cyrus Cathey, Hamilton; Nelda Cordell, Childress; Gale Tigert, Lone Star; Mildred Holloway, Austin; and Rubert Luby, San Antonio.

Re-appointed are John Gaston, Henderson; Clifford Milnar, Amarillo; **Dr. Robert Noble,** Dallas; Curt Reimann, Austin; **Dr. Vance Terrell,** Stephenville; and Rev. Mark Williams, Plainview.

Five Texas doctors have been granted Fellowships in the American College of Cardiology.

They are **Drs. Donald G. Pasegrau,** Dallas; **Charles E. Mullins,** Houston; **O. Brandon Hull,** Lubbock; **Victor E. Schulze, Jr.,** San Angelo; and **Jack M. Martt,** Temple.

Dr. Robert G. Hall, Houston, is the ACC Governor for Texas.

Dr. William H. Hadnott, San Antonio anesthesiologist, has been named to the board of directors of the San Antonio Chapter, American Heart Association.

Elected to three-year terms on the Board of Directors of the Bexar County Medical Foundation are San Antonio physicians **Drs. Manuel Otero, John Pfeiffer, Mason Reddix, Ed Sykes,** and **George Thompson.**

Dr. William B. Brendel, San Antonio pediatrician, has been appointed to the Committee on Environmental Hazards of the American Academy of Pediatrics.

Dr. Max E. Johnson, San Antonio, has been named chairman of the AMA Committee on Nursing. Dr. Johnson presently serves as a consultant to TMA's Committee on Nursing.

Dr. Royce C. Lewis, Jr., Lubbock, has been named chairman of the Texas Tech University Medical School Foundation. **Dr. Sam C. Arnett, Jr.,** is secretary.

Dr. George Beck is outgoing chairman. Dr. Lewis served as vice chairman of the foundation last year.

Dr. Robert V. Walker, professor and chairman of the Division of Oral Surgery at The University of Texas Southwestern Medical School at Dallas, is the new president of the American Society of Oral Surgeons. He is past president of the American Board of Oral Surgery, which reviews and certifies specialists in the field. He was a member of the board from 1964 to 1970.

Nursing school gets new dean

Mrs. Dorothy Damewood has been named dean of The University of Texas School of Nursing at Galveston, a part of The University of Texas System School of Nursing.

Formerly, she was an associate dean under Dr. Marilyn D. Willman, who has been named president of the UT System School of Nursing.

Mrs. Damewood received her BS in Nursing from the University of Kansas at Lawrence and her MA in Education from the University of Kansas City at Kansas City, Mo.

"We have 26 faculty members on this campus," Mrs. Damewood said, "and this fall we began a new integrated process oriented curriculum which allows students to pursue individual nursing interests."

There are 140 junior and senior students at Galveston working toward a BS in nursing. A new program preparing Pediatric Nurse Practitioners will begin in January.

UNIT VALUES FOR TMA MEMBERS RETIREMENT PLAN AND TRUST

(As a service to participants in the TMA Members Retirement Plan and to physicians interested in enrolling in the program, comparative values for investments are listed. Figures shown are the latest available at press deadline and are for comparison purposes only. Most daily newspapers list up-to-the-minute values on mutual funds.

Investment media	Original price 9-30-68	Net asset value per share 12-31-72	Net asset value per share 12-31-72*
Mercantile National Bank Stock Fund	$10.25	$13.20	$13.20
Loomis-Sayles Capital Development Fund	14.20	14.62	16.93
T. Rowe Price Growth Stock Fund	25.93	33.31	37.14
Loomis-Sayles Mutual Fund	16.82	16.20	20.55
Stein Roe & Farnham Balanced Fund	23.34	24.87	31.91
Mercantile Bank Fixed Income Fund	10.00	11.66	11.66

*Adjusted to include dividends and distributions since 9-30-68.

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Possibly Effective:

1. For the relief of symptoms associated with cerebral vascular insufficiency.
2. In peripheral vascular disease of arteriosclerosis obliterans, thromboangiitis obliterans (Buerger's disease) and Raynaud's disease.
3. Threatened abortion.

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ADVERSE REACTIONS: On rare occasions, oral administration of the drug has been associated in time with the occurrence of severe rash. When rash appears, the drug should be discontinued. Occasional overdosage effects such as transient palpitation or dizziness are usually controlled by reducing the dose.

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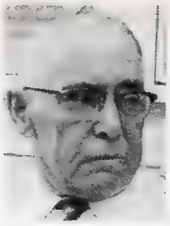
DR. WINDHAM

DR. AXELROD

DR. J. H. WINDHAM

Shelby County general practitioner for 60 years, Dr. John Henry (Jack) Windham, died of acute pyelonephritis and congestive heart failure on Oct. 18, 1972, in Methodist Hospital of Dallas. He was 90.

A 1907 graduate of Fort Worth Medical College, Dr. Windham had planned a career in dentistry, but because of physical disabilities, chose to enter the medical profession instead. Upon graduation from medical school, he began practicing in Shelbyville with his brother, the late Dr. W. C. Windham, who had graduated from medical school two years earlier.

A school board leader and board chairman of First United Methodist Church in Shelbyville, Dr. Windham was an active Mason and Shriner. He was a member of Shelby-San Augustine-Sabine Counties Medical Society, Texas Medical Association, and American Medical Association. In addition, he belonged to Phi Chi medical fraternity.

Survivors include his wife, Eula Crawford Windham; a sister, Mrs. Isabel Pounds of Tyler; and two brothers, L. B. Windham, MD, of Tyler, and L. D. Windham of Center.

DR. R. H. JACKSON

Dr. Robert H. Jackson, Houston anesthesiologist, died Oct. 26, 1972, at his home. Cause of death was emphysema. The 66-year-old physician had practiced in Houston since 1948.

A native of Bentonville, Ark., Dr. Jackson was a 1941 graduate of the University of Arkansas School of Medicine, located at Little Rock. He interned at Baroness Erlanger Hospital in Chattanooga, Tenn., in 1941 and 1942, and served a residency in anesthesiology at The University of Texas Medical Branch and John Sealy Hospital in Galveston from 1946 to 1948. From 1942 to 1946, Dr. Jackson was a medical officer with the US Army and was stationed at Eglin Field, Fla.

Dr. Jackson was elected to inactive membership in Texas Medical Association in 1969. He was also a member of Harris County Medical Society, American Medical Association, Texas Society of Anesthesiologists, and American Society of Anesthesiologists.

Surviving Dr. Jackson are his wife, Alyce Mead Jackson; two sons, John H. Jackson of Austin and Raymond H. Jackson of Houston; and his sister, Mrs. Virginia Drummond of Bentonville, Ark.

DR. A. AXELROD

Dr. Alexander Axelrod, 76, died on Sept. 14, 1972, in Houston. A native of Austria, Dr. Axelrod had practiced in Houston since 1927. He specialized in internal medicine.

After attending high school in Houston and The University of Texas at Austin, Dr. Axelrod entered Tulane University School of Medicine in New Orleans. Upon graduating with an MD degree in 1921, he served a one-year internship at Charity Hospital of Louisiana in New Orleans, followed by a residency at Pottengers Sanatorium in Los Angeles from 1922 to 1923. He also spent one year at a tuberculosis hospital in Denver, Colo. The author of several articles on pulmonary tuberculosis, chest surgery, and diabetes, Dr. Axelrod did postgraduate work in 1932 at the University of Vienna and at the University of Berlin.

He was certified by the American College of Cardiology and held memberships in Harris County Medical Society, Houston Society of Internal Medicine, Texas Medical Association, Texas Heart Association, Texas Diabetes Association, American Medical Association, and American Physicians Fellowship, Inc. In addition to memberships in several medical organizations, Dr. Axelrod belonged to the Optimist Breakfast Club, Elks Lodge, B'nai B'rith, Knights of Pythias, and the Houston Chamber of Commerce.

Surviving the physician are his wife, Helen Marie Axelrod; a step-daughter, Mrs. Ellen L. Gantenbein of Houston; a step-son, David Ralph Smith of Houston; two sisters, Dr. M. J. Rauch Barraco (DDS) of Houston, and Mrs. Clara Macko of San Francisco; three nephews; and three grandchildren.

DR. R. A. JOHNSTON

Retired Houston obstetrician Dr. Robert A. Johnston, Sr., died Nov. 26, 1972, in Houston. Cause of death of the 77-year-old physician was malignant disease.

A native of Tuskegee, Ala., Dr. Johnston was a 1919 graduate of Johns Hopkins University School of Medicine in Baltimore, Md. He had attended the University of Alabama before beginning his medical studies. After receiving his MD degree, Dr. Johnston served as assistant in obstetrics at Johns Hopkins University School of Medicine, and as assistant in gynecology at Sloane Hospital in New York City.

Elected to honorary membership in Texas Medical Association in 1971, Dr. Johnston was also a member of Harris County Medical Society, American Medical Association, American Association of Obstetricians and Gynecologists, American College of Obstetricians and Gynecologists, American College of Surgeons, and Central Association of Obstetricians and Gynecologists.

Survivors are a son, Robert A. Johnston, Jr., MD, of Houston; a daughter, Mrs. Marie Jo Willoughby of San Francisco; and eight grandchildren.

DR. L. A. CRAPITTO

Life-long Houston resident Dr. Louis Anthony Crapitto died Nov. 6, 1972, in his home. The 64-year-old general practitioner had retired from active practice in 1971 due to ill health.

Dr. Crapitto attended Rice University in Houston and Tulane University College of Arts and Sciences in New Orleans before beginning his medical studies at Tulane University School of Medicine. He graduated with an MD degree in 1932 and began serving an

DR. McMEANS

DR. TIPPS

DR. STRASSMAN

internship at St. Elizabeth Hospital in Dayton, Ohio. He completed his internship in 1933 and returned to Houston, where he was a senior intern at Jefferson Davis Hospital until 1934 and assistant resident physician from 1934 to 1935.

At the time of his death, Dr. Crapitto was a member of Harris County Medical Society, Texas Medical Association, American Medical Association, American Academy of Family Physicians, Southern Medical Association, and Postgraduate Medical Assembly of South Texas.

A member of the Catholic church, the physician had served as director of the Continental Bank and Trust Company in Houston.

Survivors, all of Houston, include his wife, Nellie McGowen Crapitto; two daughters, Mrs. Anna Louise Zander and Mrs. Mary Nell Hannay; two sons, Louis Anthony Crapitto, Jr., and Frank Ray Crapitto; a sister, Mrs. Lucille Romano; two brothers, Anthony F. Crapitto and Samuel J. Crapitto; and six grandchildren.

DR. R. H. McMEANS

Houston general practitioner Dr. Robert Howard McMeans died Oct. 26, 1972, in Fair Haven, NJ. The retired physician had recently moved to Fair Haven, having practiced in Houston for 52 years.

Dr. McMeans, 84, was born in Palestine, Tex. He graduated from The University of Texas at Austin in 1912 with a BA degree and entered The University of Texas Medical Branch at Galveston. After receiving his MD degree in 1917, Dr. McMeans began serving with the US Naval Hospital in Washington, DC. During his service with the Navy, Dr. McMeans was also stationed at Pensacola, Fla., and Cambridge, Mass. In 1920, he completed his military service and moved to Houston.

An honorary member of the Texas Medical Association, Dr. McMeans also belonged to Harris County Medical Society, American Medical Association, Southern Medical Association, Texas Academy of Family Physicians, and American Academy of Family Physicians. He held memberships in Alpha Omega Alpha honor society and Phi Rho Sigma medical fraternity.

Surviving the physician are his daughter, Mrs. Mary Elizabeth Borch of Fair Haven, NJ; and four grandchildren. His wife, Julia Rock McMeans, preceded him in death in 1953.

DR. D. C. TIPPS

Dr. Derrell Conway Tipps, 49, general practitioner in Fort Worth for 19 years, died on Sept. 12, 1972, in Fort Worth. Cause of death was massive heart attack.

Born in Grand Saline, Tex., Dr. Tipps attended public schools in Rule and Odessa, Tex., and Texas Christian University in Fort Worth. He was graduated from UT Medical Branch at Galveston in 1951 with an MD degree, and while in medical school served externships at St. Joseph Hospital in Fort Worth and at Wichita Falls State Hospital in Wichita Falls. He completed an internship at the US Naval Hospital in Bethesda, Md., and then served a residency in obstetrics and gynecology at the US Naval Hospital in Corpus Christi. He began practicing in Fort Worth in 1953, devoting special attention to general surgery and obstetrics and gynecology.

At the time of his death, Dr. Tipps was a member of Tarrant County Medical Society, Texas Medical Association, American Medical Association, and American Academy of Family Physicians. He belonged to Phi Chi medical fraternity, having served as president of the fraternity in 1950-1951, and to Alpha Omega Alpha honor society. He also belonged to First Presbyterian Church in Fort Worth, where he had served as an elder.

Dr. Tipps is survived by his wife, Sara Watson Tipps; a son, Steven Douglas Tipps; and a daughter, D'Anne Tipps, all of Fort Worth.

DR. E. O. STRASSMAN

Retired Houston obstetrician-gynecologist Dr. Erwin Otto Strassman, died Oct. 28, 1972, in Houston at the age of 77.

Dr. Strassman was born in Berlin, Germany, where he received his medical education. Following his graduation from medical school in 1922, the physician served an internship and residency at hospitals in Berlin. In 1936, after completing his residency, Dr. Strassman served a special fellowship at the Mayo Clinic in Rochester, Minn. He was certified by the American Board of Obstetrics and Gynecology in 1939.

The former professor of obstetrics and gynecology at Baylor College of Medicine had practiced in Houston since 1938, and was a member of several medical organizations. He belonged to American College of Obstetricians and Gynecologists, Central Association of Obstetricians and Gynecologists, Texas Association of Obstetricians and Gynecologists, Houston Obstetrics and Gynecologic Society, American Fertility Association, Houston Surgical Society, Harris County Medical Society, Texas Medical Association, and American Medical Association.

Surviving Dr. Strassman are his wife, Ilse Wens Strassman; two daughters, Mrs. Ruth Lauden and Mrs. Angelica Trahan, both of Houston; and a son, Dr. W. P. Strassman, PhD., of East Lansing, Mich.

RECENTLY DECEASED MEMBERS OF THE TEXAS MEDICAL ASSOCIATION

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Houston 1907-1972

ROBERT H. JACKSON
Houston 1906-1972

ROBERT A. JOHNSTON, SR.
Houston 1895-1972

ROBERT H. McMEANS
Houston 1887-1972

ERWIN O. STRASSMAN
Houston 1895-1972

DERRELL C. TIPPS
Fort Worth 1923-1972

JOHN H. WINDHAM
Shelbyville 1882-1972

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The Library ranks as one of the finest in the nation. It is providing more than 10,000 reference requests, 3,500 tapes and cassettes, and 2,500 films each year to physicians, students, and to those seeking information related to medicine and health care. The resources of the Library include 60,000 volumes, 400 tapes, and 300 scientific and lay films; more than 1,300 professional journals are received monthly. Services are provided without charge.

Contributions to the Texas Medical Memorial Library Fund are invested in a permanent fund and are managed by the Board of Trustees of the Texas Medical Association. Dividends are used to purchase new books and to operate the Library.

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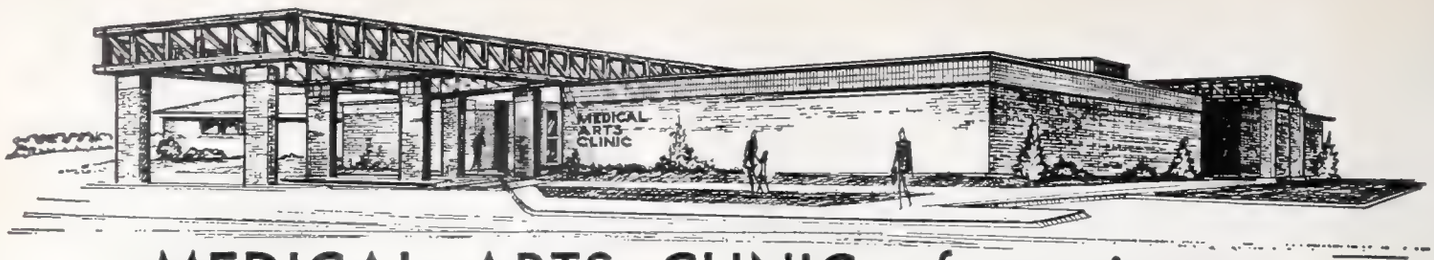

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Our skin—the human integument—covers us, defines us, protects us. But skin is subject to cuts, burns, abrasions. And infections. Neosporin Ointment fights infection by providing broad antibacterial action against susceptible skin invaders. It contains antibiotics that are rarely used systemically, reducing the risk of sensitization.

INDICATIONS: *Therapeutically*, used as an adjunct to appropriate systemic therapy for topical infections, primary or secondary, due to susceptible organisms, as in: • infected burns, skin grafts, surgical incisions, otitis externa • primary pyodermas (impetigo, ecthyma, sycosis vulgaris, paronychia) • secondarily infected dermatoses (eczema, herpes, and seborrheic dermatitis) • traumatic lesions, inflamed or suppurating as a result of bacterial infection.

Prophylactically, the ointment may be used to prevent bacterial contamination in burns, skin grafts, incisions, and other clean lesions. For abrasions, minor cuts and wounds accidentally incurred, its use may prevent the development of infection and permit wound healing.

CONTRAINDICATIONS: Not for use in the external ear canal if the eardrum is perforated. This product is contraindicated in those individuals who have shown hypersensitivity to any of the components.

PRECAUTION: As with other antibiotic preparations, prolonged use may result in overgrowth of nonsusceptible organisms and/or fungi. Appropriate measures should be taken if this occurs. Articles in the current medical literature indicate an increase in the prevalence of persons allergic to neomycin. The possibility of such a reaction should be borne in mind.

Complete literature available on request from Professional Services Dept. PML.

NEOSPORIN® Ointment

(POLYMYXIN B-BACITRACIN-NEOMYCIN)

Each gram contains: Aerosporin® brand Polymyxin B Sulfate 5,000 units; zinc bacitracin 400 units; neomycin sulfate 5 mg. (equivalent to 3.5 mg. neomycin base); special white petrolatum q.s. In tubes of 1 oz. and ½ oz. and $\frac{1}{32}$ oz. (approx.) foil packets.

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Research Triangle Park
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If he's making the rounds of San Francisco...

Antivert® (meclizine HCl) for vertigo*

Antivert® (meclizine HCl) has been found useful in the management of vertigo associated with diseases affecting the vestibular system. It is available as Antivert (12.5 mg. meclizine HCl) and Antivert/25 (25 mg. meclizine HCl) scored tablets for convenience and flexibility of dosage. Antivert/25 (25 mg. meclizine HCl) Chewable Tablets are available for the management of nausea, vomiting, and dizziness associated with motion sickness.

*INDICATIONS. Based on a review of this drug by the National Academy of Sciences-National Research Council and/or other information, FDA has classified the indications as follows:

Effective: Management of nausea and vomiting and dizziness associated with motion sickness.

Possibly Effective: Management of vertigo associated with diseases affecting the vestibular system.

Final classification of the less than effective indications requires further investigation.

CONTRAINDICATIONS. Administration of Antivert during pregnancy or to women who may become pregnant is contraindicated in view of the teratogenic effect of the drug in rats.

The administration of meclizine to pregnant rats during the 12th-15th day of gestation has produced cleft palate in the offspring. Limited studies using doses of over 100 mg./kg./day in rabbits and 10 mg./kg./day in pigs and monkeys did not show cleft palate. Congeners of meclizine have caused cleft palate in species other than the rat.

Meclizine HCl is contraindicated in individuals who have shown a previous hypersensitivity to it.

WARNINGS. Since drowsiness may, on occasion, occur with use of this drug, patients should be warned of this possibility and cautioned against driving a car or operating dangerous machinery.

Usage in Children: Clinical studies establishing safety and effectiveness in children have not been done; therefore, usage is not recommended in the pediatric age group.

Usage in Pregnancy: See "Contraindications."

ADVERSE REACTIONS. Drowsiness, dry mouth and, on rare occasions, blurred vision have been reported.

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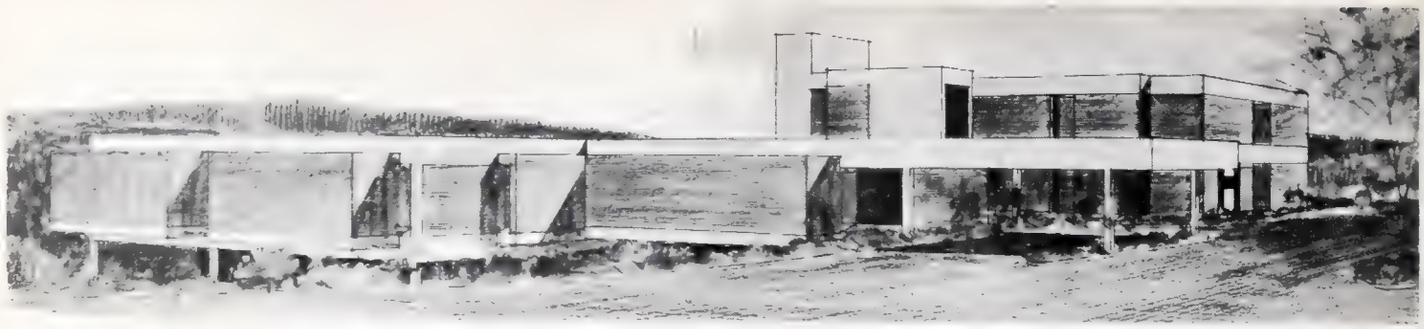

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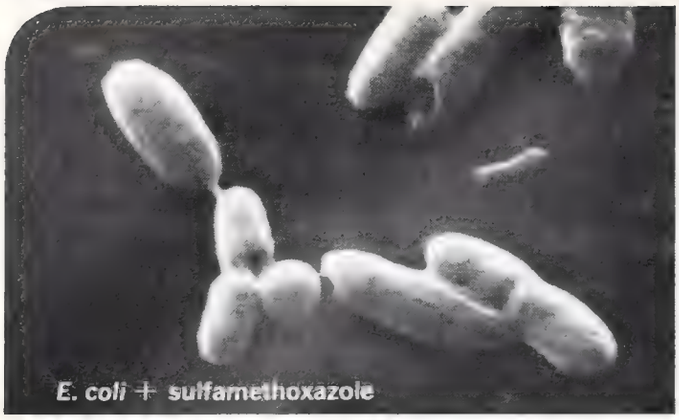
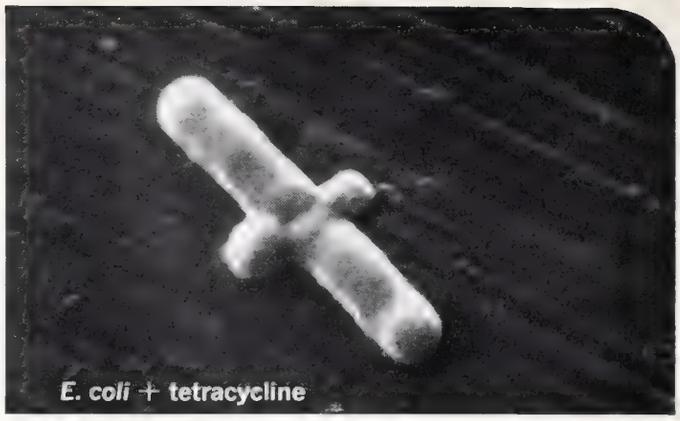
American Cancer Society

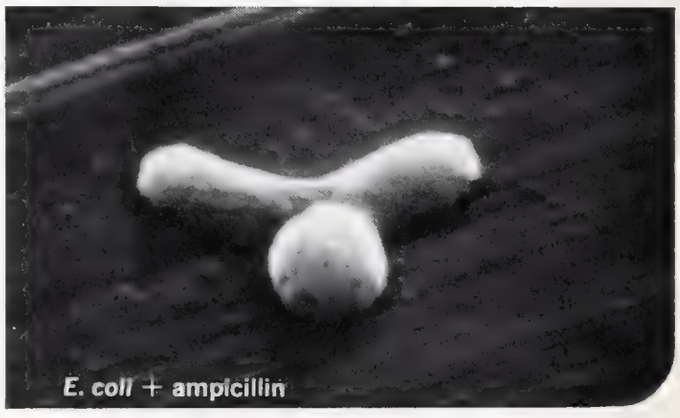
Encounter under the Scanning Electron Microscope

SEM reveals changes in *E. coli* exposed to antibacterial agents

The Scanning Electron Microscope (SEM) is the only instrument which gives 3-dimensional views on a microscopic level. This permits the surface morphology of microorganisms to be observed in detailed perspective. Changes in surface morphology of *E. coli* exposed to various antimicrobial agents are seen on the following page. An SEM photomicrograph of normal control *E. coli* appears above.







Different modes of antibacterial action — Similar changes in morphology

As part of a series of experiments,[1-3] strains of *E. coli* proven susceptible to each antibacterial agent were exposed to 1 MIC of the respective antibacterials for a three-hour period. Included were cell-wall-active drugs, ampicillin and cephalothin; a drug interfering with intracellular protein synthesis, tetracycline; and a chemical agent which acts by interference with para-aminobenzoic acid, sulfamethoxazole.

As seen above, elongation of the bacilli, mid-cell defects and spheroplast-like forms may be appreciated with the SEM technique. These changes in bacterial morphology were similar... regardless of the antibacterial agent used and irrespective of its mechanism of action.

"At present, the significance of these observations in clinical infection must be considered with caution, but it is hoped that these data will stimulate a reevaluation of present concepts of the nature and role of morphological variants of bacteria exposed to a variety of antibacterial factors."[2]

It should be noted that no clinical conclusions can be drawn from this study, as it is not always possible to extrapolate *in vitro* data to humans.

References: 1. Klainer, A. S.; Fass, R. J., and Perkins, R. L.: Scientific Exhibit presented at the 25th American Medical Association Clinical Convention, New Orleans, La., Nov. 28-Dec. 1, 1971. **2.** Klainer, A. S., and Perkins, R. L.: *Antimicrob. Agents Chemother., 1*:164, 1972. **3.** Klainer, A. S.: Data on file, Hoffmann-La Roche Inc., Nutley, N.J.

Before prescribing, please consult complete product information, a summary of which follows:

Indications: Acute, recurrent or chronic nonobstructed urinary tract infections (primarily pyelonephritis, pyelitis and cystitis) due to susceptible organisms. **Note: Carefully coordinate *in vitro* sulfonamide sensitivity tests with bacteriologic and clinical response; add aminobenzoic acid to follow-up culture media. The increasing frequency of resistant organisms limits the usefulness of antibacterials including sulfonamides, especially in chronic or recurrent urinary tract infections.** Measure sulfonamide blood levels as variations may occur; 20 mg/100 ml should be maximum total level.

Contraindications: Sulfonamide hypersensitivity; pregnancy at term and during nursing period; infants less than two months of age.

Warnings: Safety during pregnancy has not been established. Sulfonamides should not be used for group A beta-hemolytic streptococcal infections and will not eradicate or prevent sequelae (rheumatic fever, glomerulonephritis) of such infections. Deaths from hypersensitivity reactions, agranulocytosis, aplastic anemia and other blood dyscrasias have been reported and early clinical signs (sore throat, fever, pallor, purpura or jaundice) may indicate serious blood disorders. Frequent CBC and urinalysis with microscopic examination are recommended during sulfonamide therapy. Insufficient data on children under six with chronic renal disease.

Precautions: Use cautiously in patients with impaired renal or hepatic function, severe allergy, bronchial asthma; in glucose-6-phosphate dehydrogenase-deficient individuals in whom dose-related hemolysis may occur. Maintain adequate fluid intake to prevent crystalluria and stone formation.

Adverse Reactions: *Blood dyscrasias* (agranulocytosis,

Encounter in Clinical Practice

Control of primary bacterial offenders

Antibacterial Gantanol® (sulfamethoxazole) controls susceptible strains of *E. coli* and other gram-negative and gram-positive organisms often implicated in acute nonobstructed pyelonephritis and cystitis.

Prompt antibacterial blood and urine levels

In from 2 to 3 hours after the initial 2-Gm adult dose, antibacterial levels are present in both the blood and urine.

B.I.D./T.I.D. dosage for around-the-clock coverage

Subsequent 1-Gm doses provide up to 12 hours of antibacterial coverage. More severe u.t.i. may require a q. 8 h. dosage regimen. Either schedule provides coverage during the waking and sleeping hours—especially important during hours of sleep when normal urinary retention tends to favor bacterial proliferation.

Also effective in nonobstructed chronic and recurrent u.t.i.

It is not uncommon for the elderly and the debilitated to develop chronic and/or recurrent nonobstructed urinary tract infections such as pyelonephritis and cystitis. Such cases often respond satisfactorily to Gantanol. The increasing frequency of resistant organisms is a limitation of usefulness of antibacterial agents including sulfonamides, especially in chronic or recurrent u.t.i.

Your Option: Tablets or Suspension

Either dosage form—the Tablets or the pleasant-tasting, cherry-flavored Suspension—can provide the dependable antibacterial activity necessary to control susceptible nonobstructed cystitis and pyelonephritis. Symptomatic improvement may usually be expected in 24 to 48 hours. The usual precautions with sulfonamide therapy should be observed, including adequate fluid intake. Gantanol (sulfamethoxazole) is generally well tolerated with relative freedom from complications; the most common side effects are nausea, vomiting and diarrhea. Frequent c.b.c.'s and urinalyses with microscopic examination are recommended.

In nonobstructed cystitis and pyelonephritis due to susceptible organisms

Gantanol®
(sulfamethoxazole)
Basic Therapy

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aplastic anemia, thrombocytopenia, leukopenia, hemolytic anemia, purpura, hypoprothrombinemia and methemoglobinemia); *allergic reactions* (erythema multiforme, skin eruptions, epidermal necrolysis, urticaria, serum sickness, pruritus, exfoliative dermatitis, anaphylactoid reactions, periorbital edema, conjunctival and scleral injection, photosensitization, arthralgia and allergic myocarditis); *gastrointestinal reactions* (nausea, emesis, abdominal pains, hepatitis, diarrhea, anorexia, pancreatitis and stomatitis); *CNS reactions* (headache, peripheral neuritis, mental depression, convulsions, ataxia, hallucinations, tinnitus, vertigo and insomnia); *miscellaneous reactions* (drug fever, chills, toxic nephrosis with oliguria and anuria, periarteritis nodosa and L.E. phenomenon). Due to certain chemical similarities with some goitrogens, diuretics (acetazolamide, thiazides) and oral hypoglycemic agents, sulfonamides have caused rare instances of goiter production, diuresis and hypoglycemia as well as thyroid malignancies in rats following long-term administration. Cross-sensitivity with these agents may exist.

Dosage: Systemic sulfonamides are contraindicated in infants under 2 months of age (except adjunctively with pyrimethamine in congenital toxoplasmosis).

Usual adult dosage: 2 Gm (4 tabs or teasp.) initially, then 1 Gm *b.i.d.* or *t.i.d.* depending on severity of infection.

Usual child's dosage: 0.5 Gm (1 tab or teasp.)/20 lbs of body weight initially, then 0.25 Gm/20 lbs *b.i.d.* Maximum dose should not exceed 75 mg/kg/24 hrs.

Supplied: Tablets, 0.5 Gm sulfamethoxazole; Suspension, 0.5 Gm sulfamethoxazole/teaspoonful.

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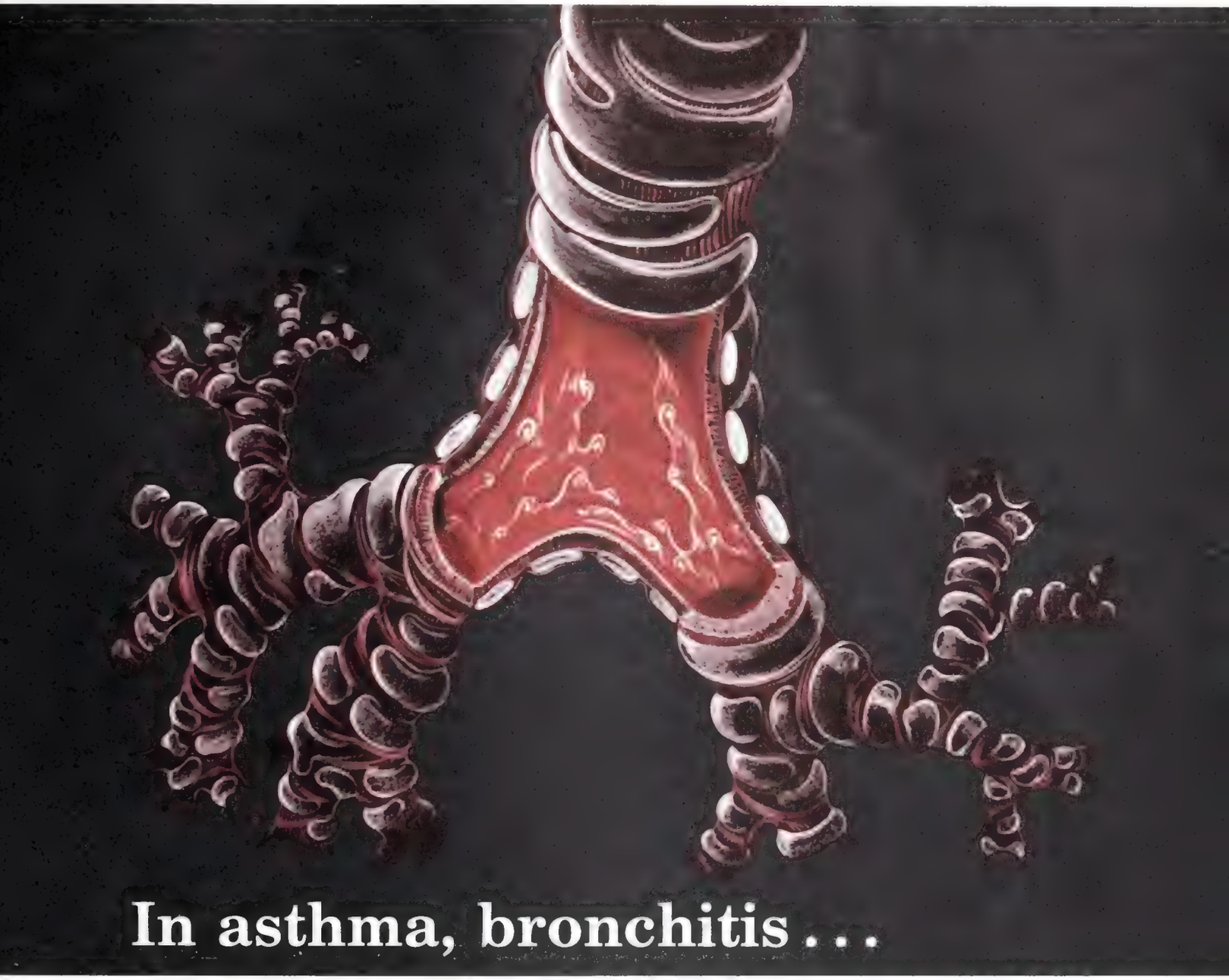

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SIDE EFFECTS: Serious adverse side effects from the use of Iodo-Niacin are rare. Mild symptoms of iodism such as metallic taste, skin rash, mucous membrane ulceration, salivary gland swelling, and gastric distress have occurred occasionally. These generally subside promptly when the drug is discontinued. Pulmonary tuberculosis is considered a contraindication to the use of iodides by some authorities, and the drug should be used with caution in such cases. Rare cases of goiter with hypothyroidism have been reported in adults who had taken iodides over a prolonged period of time, and in newborn infants whose mothers had taken iodides for prolonged periods. The signs and symptoms regressed spontaneously after iodides were discontinued. The causal relationship and exact mechanism of action of iodides in this phenomenon are unknown. Appropriate precautions should be followed in pregnancy and in individuals receiving Iodo-Niacin for prolonged periods.

DOSAGE: The oral dose for adults is two tablets after meals taken with a glass of water. For children over eight years, one tablet after meals with water. The dosage should be individualized according to the needs of the patient on long-term therapy.

HOW SUPPLIED: Cole's Iodo-Niacin tablets are available in bottles of 100, 500 and 1,000. Slosol coated pink. NDC 55-6458.

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Each SLOSOL tablet contains potassium iodide 135 mg. and niacinamide hydroiodide 25 mg. Sig. ĵĵ tabs. t.i.d. p.c.

References: 1. Itkin, I. H., Am. Fam. Phys. 4:83, 1971. 2. Feinberg, S. M., Consultant Sept., 1971, pg. 32. 3. Bookman, R., Ann. Allerg. 29:367, 1971.

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ADVERTISING & BUSINESS OFFICES: Texas Medical Association, 1801 North Lamar Blvd., Austin 78701; Telephone 512-477-6704.

PRINTING OFFICES: Texas Medicine, c/o Stafford-Lowdon Company, 1114 West Daggett, Fort Worth 76104.

Editorials

DO YOU HELP RETIRE THE HANDICAPPED?

The employment of the handicapped has been an ideal promoted and supported by physicians for years. The rationale for the program is based upon the fact that the handicapped, if placed within their mental and physical capabilities, may be extremely productive, effective, and loyal employees. While physicians have endeavored to influence the employment of the handicapped, we many times contribute unconsciously to the early retirement of individuals who acquire disabilities later in life.

Handicaps which develop toward the end of a career usually result in a different set of circumstances from those that occur early in life. When handicaps occur before or early during the productive period of life, the individuals generally possess the desire to be productive, the flexibility to adapt, and the enthusiasm of youth. After many years of employment, work frequently has become less challenging—or even drudgery. Hope for advancement has faded and increasing technology may have produced obsolescence in employee training and ability. With the family reared, economic incentive is diminished, and in many industries there is a prospect of special economic compensation for medical disability. In addition, illnesses of later life are frequently degenerative or progressive and are associated with eventual disability if not death itself. This is a frightening realization and occasionally those afflicted are never emotionally able to resume active roles within society.

Business, of course, has its own concerns. It must remain competitive. Consequently, industry is under pressure for productive efficiency which, in turn, increases employee job demands. Increased efficiency comes from modern technology, which requires even greater flexibility and training on the part of the employees. Managements, therefore, are having increasing difficulty placing handicapped employees. Despite these pressures, however, industry generally has a much stronger sense of responsibility toward placing a handicapped employee than toward employment of a handicapped applicant.

Within this matrix of employee-employer forces, what is the physician's responsibility? Not only must the physician diagnose and treat the employee-patient skillfully, but he should try to rehabilitate and, if possible, return the patient to productive employment. From my standpoint as a physician in an occupational setting, I have three suggestions toward accomplishing the latter task.

First, keep in mind that there is a distinct difference between illness and disability. Many employees or patients suffer from pathological disease but are not disabled. That is, many patients have heart disease but

most are employable. Many patients have arthritis, but many jobs exist that they may perform.

Second, don't jump to conclusions regarding ability to work. Avoid making early statements with regard to a patient's disabilities. Many of the cardiac disabilities I have seen following myocardial infarctions have resulted from the physician's setting the stage by advising the patient of the gravity of the illness, or by remarking during the acute phase that the patient could never again do heavy work. Wait until the patient has attained maximum medical improvement to discuss disability.

Third, don't make the work decision. You only have the patient's description of the job, which may be distorted because of the factors mentioned, and the job requirements may be subject to change. Discuss their work restrictions. Be as specific as possible, that is: you should not lift more than 30 lb; you should not climb more than one flight of stairs without rest; you should not stand more than one hour continuously; or, you should not work overtime. Given specific restrictions, employee and employer may come together in terms of job assignment. While I have occasionally disagreed with my colleagues on the ability of an employee to work, I do not recall a single instance in which we disagreed significantly on work restrictions. Our differences have not been medical, but have resulted from different descriptions of the same job.

The rehabilitation of employees is quite different from the habilitation of a handicapped youth. The patient is already employed, but may be frightened and need reassurance regarding work. It may assist in rehabilitation if you: (1) think disability and not disease; (2) withhold any remarks about work until maximal recovery; and (3) advise your patient only in terms of medical limitations. The ability to work depends upon matching handicaps with job requirements, and many times the job requirements can be altered. Of course, many times they cannot, but the physician should provide the opportunity by setting forth the conditions under which the patient can work. In this way, unnecessary premature retirements may be avoided, and employees can be provided additional years of productive life.

C. Hunter Montgomery, MD, Baytown,
President,
Texas Industrial Medical Association.

HOLY SMOKE! A JURY SUMMONS!

Why me? I am an essential commodity, almost indispensible. Perhaps this is not an unusual response by most physicians when faced with their initial jury summons. After much hemming and hawing, complaining to patients and anyone else who would listen, and rearranging a week's appointments, I arrived at 8 a.m. on Oct 2, 1972, at the Central Jury Room, County of Bexar, to perform my civic duty.

The task was made easier because I was greeted by a lovely secretary, a patient, old friends (also unhappy at being chosen), and a bailiff, an old friend and patient.

We were then herded into our seats, and instructed, "Put on the juror button." The Hon Richard J. Woods, Judge, 37th District Court, appeared promptly and began a short introduction of the judicial process, juror selection, length of trials, etc.

For example, no one has been excused from jury duty in Texas since July 15, 1971, except women with dependent children under 10, and persons over age 65 who request exemption. Consequently there was a mixture of vocations, religions, lawyers, wives, another physician, etc among the more than 300 summoned for jury duty for the week of Oct 2, 1972. I think everyone felt better to know that a computer made the selection on a random basis, that a

juror's liability in Bexar County would average approximately two and one-half days, that cases in Bexar County can come to trial in four to eight weeks—the best record of a metropolitan area in the US—and that this is accomplished by 11 courts when the American Bar Association has recommended 25.

Before the present law, persons in 34 occupations were exempt from jury service, which apparently prompted the change in the law in an attempt to upgrade the system. Now, anyone over age 21 who is assumed to be of sane mind, can read and write, is a citizen of the county and state, and who is registered to vote is qualified as a juror.

Most of us felt reassured when Judge Woods ended his introduction by reminding the juror panel that anyone of us might wish for a fair, impartial group in the jury box in the future if fate deemed one to become either plaintiff or defendant.

In a sense I was lucky; I was not selected for a jury panel (again by computer), and was excused by the end of the second day. But I learned or relearned some lessons: (1) A broad smile and words of explanation are the best public relations ever invented. Judge Woods and the district clerk and his staff perform this function well. (2) It is good for the doctor to rub elbows with his friends, his patients, and others in a different arena. (3) It gives one a few hours to reflect on the problems of the community in a different vein and puts our own in a different and better perspective. (4) It reestablishes faith in the democratic process and makes one proud to be a part of it.

When your time comes, scream a bit, relax, and enjoy it. I hope your experience will be as pleasant as mine.

O. Roger Hollan, MD, San Antonio.

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Indications: Tension and anxiety states; somatic complaints which are concomitants of emotional factors; psychoneurotic states manifested by tension, anxiety, apprehension, fatigue, depressive symptoms or agitation; symptomatic relief of acute agitation, tremor, delirium tremens and hallucinosis due to acute alcohol withdrawal; adjunctively in skeletal muscle spasm due to reflex spasm to local pathology, spasticity caused by upper motor neuron disorders, athetosis, stiff-man syndrome, convulsive disorders (not for sole therapy).

Contraindicated: Known hypersensitivity to the drug. Children under 6 months of age. Acute narrow angle glaucoma; may be used in patients with open angle glaucoma who are receiving appropriate therapy.

Warnings: Not of value in psychotic patients. Caution against hazardous occupations requiring complete mental alertness. When used adjunctively in convulsive disorders, possibility of increase in frequency and/or severity of grand mal seizures may require increased dosage of standard anticonvulsant medication; abrupt withdrawal may be associated with temporary increase in frequency and/or severity of seizures. Advise against simultaneous ingestion of alcohol and other CNS depressants. Withdrawal symptoms (similar to those with barbiturates and alcohol) have occurred following abrupt discontinuance (convulsions, tremor, abdominal and muscle cramps, vomiting and sweating). Keep addiction-prone individuals under careful surveillance because of their predisposition to habituation and dependence. In pregnancy, lactation or women of childbearing age, weigh potential benefit against possible hazard.

Precautions: If combined with other psychotropics or anticonvulsants, consider carefully pharmacology of agents employed; drugs such as phenothiazines, narcotics, barbiturates, MAO inhibitors and other antidepressants may potentiate its action. Usual precautions indicated in patients severely depressed, or with latent depression, or with suicidal tendencies. Observe usual precautions in impaired renal or hepatic function. Limit dosage to smallest effective amount in elderly and debilitated to preclude ataxia or oversedation.

Side Effects: Drowsiness, confusion, diplopia, hypotension, changes in libido, nausea, fatigue, depression, dysarthria, jaundice, skin rash, ataxia, constipation, headache, incontinence, changes in salivation, slurred speech, tremor, vertigo, urinary retention, blurred vision. Paradoxical reactions such as acute hyperexcited states, anxiety, hallucinations, increased muscle spasticity, insomnia, rage, sleep disturbances, stimulation have been reported; should these occur, discontinue drug. Isolated reports of neutropenia, jaundice; periodic blood counts and liver function tests advisable during long-term therapy.

Dosage: Individualize for maximum beneficial effect. *Adults:* Tension, anxiety and psychoneurotic states, 2 to 10 mg b.i.d. to q.i.d.; alcoholism, 10 mg t.i.d. or q.i.d. in first 24 hours, then 5 mg t.i.d. or q.i.d. as needed; adjunctively in skeletal muscle spasm, 2 to 10 mg t.i.d. or q.i.d.; adjunctively in convulsive disorders, 2 to 10 mg b.i.d. to q.i.d. *Geriatric or debilitated patients:* 2 to 2½ mg, 1 or 2 times daily initially, increasing as needed and tolerated. (See Precautions.) *Children:* 1 to 2½ mg t.i.d. or q.i.d. initially, increasing as needed and tolerated (not for use under 6 months).

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Needs in Nursing

With the rising national concerns in health it is natural that attention be directed to nurses as being among the chief members of the health care team.

Is there really a shortage of nurses? Most manpower specialists believe that we graduate enough nurses each year to provide an adequate supply of nurses. Our problem lies in the withdrawal of nurses from their profession. At any given time, almost two out of every four nurses in the United States are professionally inactive. There are many active nurses who only work part time. Thus, we can begin to see why we have a shortage of nurses to provide direct patient care and, at the same time, no true shortage of nurses in the literal sense.

This high percentage of withdrawal should tell us something. Most of the students indicate that their primary reason for studying nursing is "to help people." If this is true, then they should find their greatest satisfaction in activities related to direct patient care and to the improvement of that care. I feel that the frustrations of having to perform so many non-nursing tasks is driving our nurse practitioners away. Our present system rewards those who want to become nurse educators or administrators, but fails to provide advancement for the one who gives direct patient care.

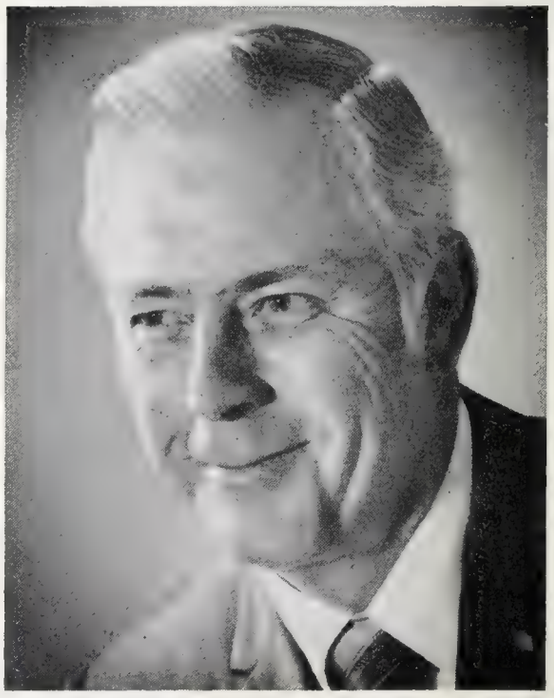
New curricular patterns for nursing must be developed in order to maintain and expand that primary desire to help people. This can be done by increasing the clinical responsibilities of the nurse. There is a lot of talk about physician's assistants and more than 150 schools in the United States are training them —all the way from two months to five years. I think that the nurse is the logical one to be the physician's assistant. A few months of postgraduate training in a chosen specialty and personal training under the physician-supervisor and we should have a very desirable physician's assistant.

The extrinsic rewards, such as pay and benefits, are necessary to provide for basic survival and security needs of the individual and these have been improved during the last few years. However, I get the feeling from talking to the nurses that the extrinsic rewards are not the cause of withdrawal nearly as much as the lack of intrinsic rewards. They need to feel that they are really contributing to the health care needs in a vital and personal way. No one enjoys working unless he feels that he is making a contribution to society.

We must rescue the nurses from all the non-nursing duties possible, and help them return to their original concept of nursing—helping people!

Braswell Locker, M.D.

Braswell Locker, MD, President, Texas Medical Association.



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Contraindications: Patients with known hypersensitivity to the drug.
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Precautions: In the elderly and debilitated, and in children over six, limit to smallest effective dosage (initially 10 mg or less per day) to preclude ataxia or oversedation, increasing gradually as needed and tolerated. Not recommended in children under six. Though generally not recommended, if combination therapy with other psychotropics seems indicated, carefully consider individual pharmacologic effects, particularly in use of potentiating drugs such as MAO inhibitors and phenothiazines. Observe usual precautions in presence of impaired renal or hepatic function. Paradoxical reactions (*e.g.*, excitement, stimulation and acute rage) have been reported in psychiatric patients and hyperactive aggressive children. Employ usual precautions in treatment of anxiety states with evidence of impending depression; suicidal tendencies may be present and protective measures necessary. Variable effects on blood coagulation have been reported very rarely in patients receiving the drug and oral anticoagulants; causal relationship has not been established clinically.
Adverse Reactions: Drowsiness, ataxia and confusion may occur, especially in the elderly and debilitated. These are reversible in most instances by proper dosage adjustment, but are also occasionally observed at the lower dosage ranges. In a few instances syncope has been reported. Also encountered are isolated instances of skin eruptions, edema, minor menstrual irregularities, nausea and constipation, extrapyramidal symptoms, increased and decreased libido—all infrequent and generally controlled with dosage reduction; changes in EEG patterns (low-voltage fast activity) may appear during and after treatment; blood dyscrasias (including agranulocytosis), jaundice and hepatic dysfunction have been reported occasionally, making periodic blood counts and liver function tests advisable during protracted therapy.
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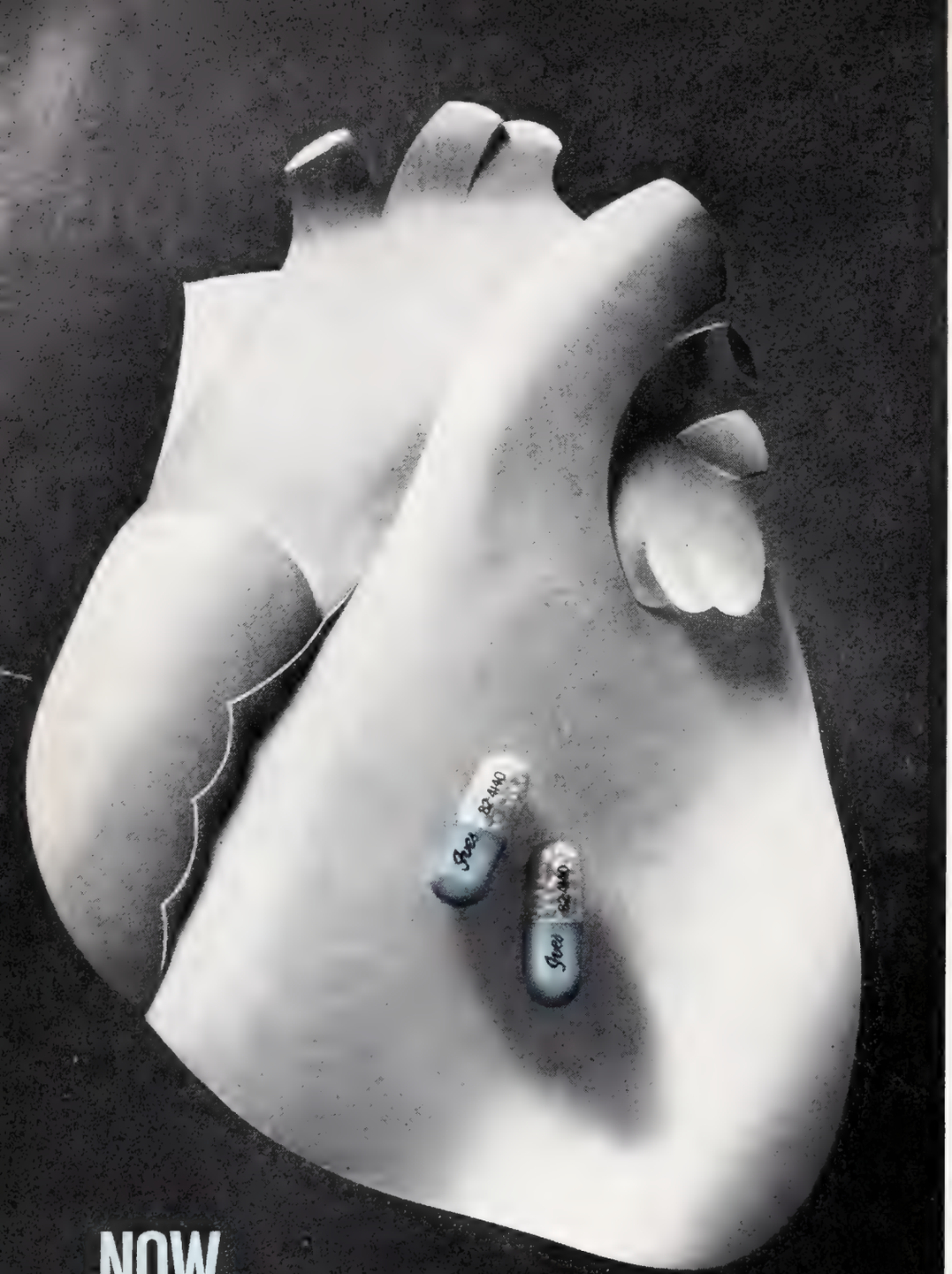

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VOL 69 MARCH 1973

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c/o Stafford-Lowdon Company
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Subscriptions: $3 per year for members; $6 for nonmembers; $8 for foreign; $5 for libraries, hospitals, and universities; $3 for medical students. Single copy: $1.

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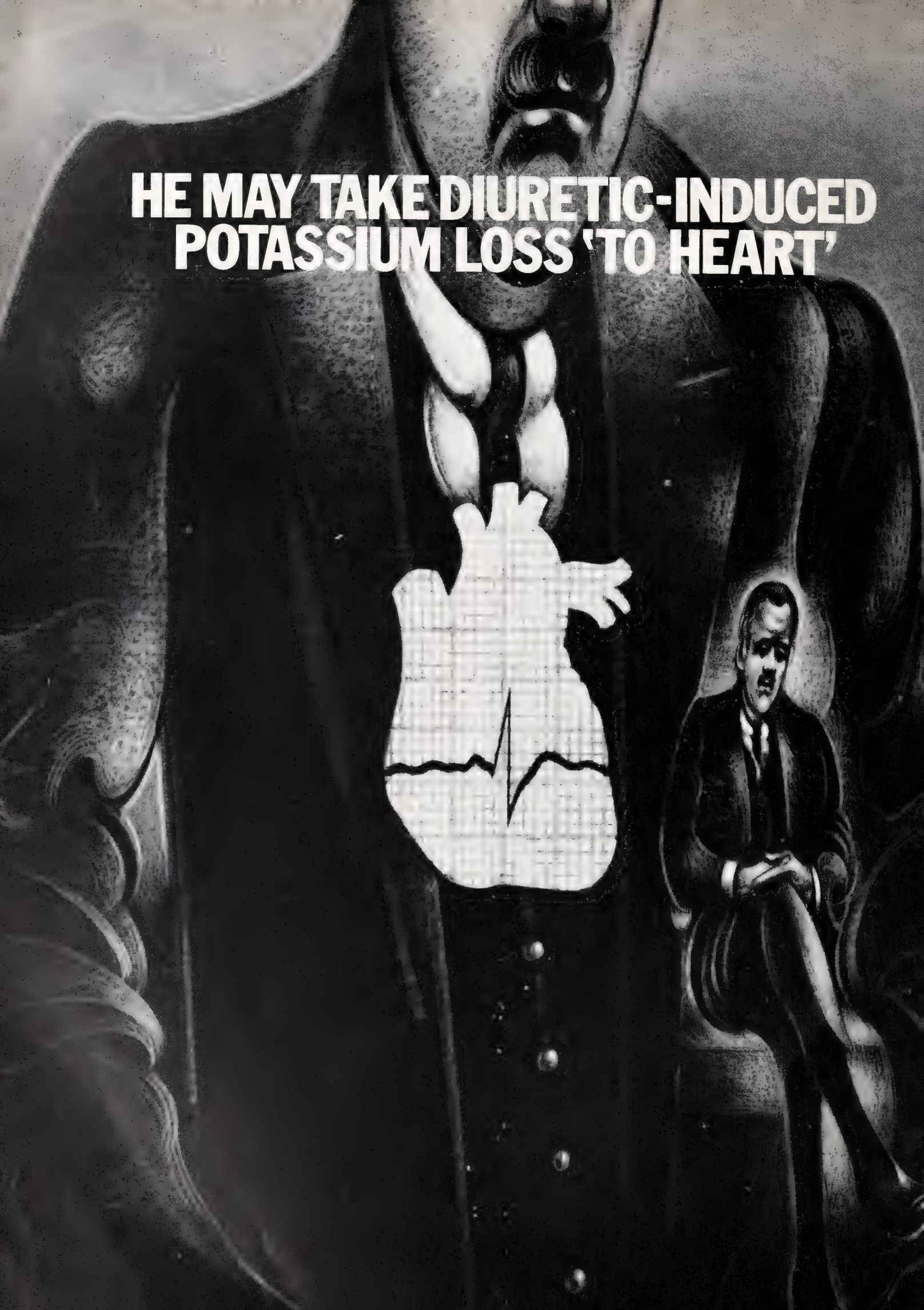
NEXT MONTH

The April issue will have articles on pregnancy termination; diabetes in pregnancy and hormonal levels for prediction of fetal outcome; management of cervical dysplasia; breast reconstruction after radical mastectomy; immunofluorescence in chronic nonhereditary blistering disease; mesh skin grafts in the management of open fractures with skin defects; clinical evaluation of topical vitamin A acid in therapy of acne vulgaris; and surgical management of malignant lesions of the skin.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NEWS

High court ruling leaves Texas with no abortion statutes

The US Supreme Court, in a decision rendered Jan. 22, has ruled that Texas' criminal abortion law, which prohibits abortions except those "procured or attempted by medical advice for saving the life of the mother," is unconstitutional. The effect of this decision leaves Texas with no criminal abortion statutes.

The 7-2 ruling, written by Justice Harry A. Blackmun, states that allowing abortion only as a life-saving procedure, without regard for the stage of the mother's pregnancy and other interests involved, violates the due process clause of the Fourteenth Amendment, which protects the right to privacy, including a woman's qualified right to terminate her pregnancy.

While there is no specific mention of a "right to privacy" in the Constitution, the concept has been developed by a long series of Court decisions.

The decision does not, however, abolish all restrictions against abortion. The majority stressed that the ruling does not give women the right to "abortion on demand."

Instead, the Court found that the state has a legitimate interest in protecting both the pregnant woman's health and the potentiality of human life. These interests grow as the pregnancy progresses, said the Court, eventually reaching a "compelling" point. When that point is reached, the Court ruled that the State may have a legitimate right to assert some control over abortion.

Three stages

Accordingly, the Court delineated three stages of pregnancy, with slightly different circumstances prevailing in each.

In the first stage—approximately the first trimester, or three months—the decision to have an abortion lies with the pregnant woman and her physician, who acts according to his medical judgement. In this stage, then, the "right to privacy" is in full force and the state cannot interfere except to ensure that the abortion is done by a physician currently licensed by the state. The state may forbid persons not defined as a physician (not currently licensed by the state) from performing an abortion.

In the second stage, or the next six months, the Court said that the states may "regulate the abortion procedure in ways reasonably

related to maternal health," such as licensing and regulating the persons and facilities involved.

During the last 10 weeks of pregnancy, the third stage, the state may, if it chooses, regulate, and even forbid abortion except when deemed necessary by appropriate medical judgement, to preserve the life and health of the mother.

The decision, said the Court, "vindicates the right of the physician to administer medical treatment according to his professional judgement up to the points where important State interests provide compelling justification for intervention. Up to these points, the abortion decision in all its aspects is inherently, and primarily, a medical decision, and basic responsibility for it must rest with the physician."

The Court did not discuss the father's rights, if any exist in the constitutional context, in abortion decisions, nor did it decide whether or not written permission from parents is required in the case of an unmarried minor.

Fetus not a "person"

In its decision, the court rejected the argument that the fetus is a "person" because life begins at conception, thus entitling it to the due process and equal protection guarantees of the Constitution.

"The unborn have never been recognized in the law as persons in the whole sense," wrote Justice Blackmun. "The Constitution does not define "person" in so many words. The use of the word is such that it has application only postnatally."

Justices assenting in the decision were Chief Justice Warren E. Burger, and Justices William O. Douglas, William J. Brennan, Jr., Potter Stewart, Thurgood Marshall, and Lewis F. Powell, Jr.

Justices Byron R. White and William Rehnquist dissented, charging that the Court was exercising "raw judicial power . . . by interposing a constitutional barrier to state efforts to protect human life and by investing mothers and doctors with the constitutionally protected right to exterminate it."

TMA Policy

TMA's present policy on abortion was adopted by the House of Delegates in 1971 after a study was made by a special Committee on Abortion Laws in Texas. The policy states that

NEWS

abortion is a medical procedure and should be performed only by a duly licensed physician and surgeon in a licensed hospital acting only in conformance with standards of good medical practice, and after proper medical consultation.

No physician or other professional shall be compelled to perform any act which violates his good medical judgement. Neither physician, hospital, nor hospital personnel shall be required to perform any act which violates moral principles which they might hold.

The policy statement also notes that the policy is not an endorsement of abortion on demand, nor an endorsement of the use of abortion as part of a social movement.

In addition, physicians are also reminded that, consistent with medical ethics, the solicitation of patients is unethical, whether it be for abortion or for any other medical service.

The AMA policy on abortion is similar to TMA's, and the AMA Judicial Council has stated that the principles of medical ethics of the AMA do not prohibit a physician from performing an abortion in accordance with good medical practice and under circumstances that do not violate the laws of the community in which he practices.

In general, state medical societies appear to be taking a cautious line in regard to the decision, apparently awaiting legal interpretations of the decision before issuing any guidelines.

A few societies are appointing committees to write new state legislation and guidelines.

Nursing Project Council survey seeks data on nurse utilization

TMA members will soon be receiving a questionnaire on nurse utilization from the Nursing Project Council of the Coordinating Board, Texas College and University System.

A similar questionnaire will also be sent to nurses throughout Texas. Its purpose is to gather data regarding previous education, continuing education, and to obtain personal feelings regarding "utilization of the nurse to the fullest extent of her capabilities."

Information obtained from the questionnaire will be helpful to the Texas Joint Practice Commission, the TMA-TNA Liaison Committee and the Nursing Project Council.

Physicians are urged to complete and return the questionnaire promptly.

This two-building complex at Brooke Army Medical Center at Fort Sam Houston in San Antonio will house the US Army's Academy of Health Sciences—the "West Point of Army Medicine." Originally designated the US Army Medical Field Services School, the $9.8 million complex was given full Academy status upon completion.

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NEWS

Over 3,000 MDs voice attitudes in Continuing Education survey

The response to the TMA Committee on Continuing Education survey of Texas physicians has been very good, reports Dr. R. D. Haines, committee chairman. Dr. Haines said that over 3,000 replies to the survey have been received, and that 1,950 physicians have completed forms on continuing education activities during 1972.

The Committee polled members of the Association on their attitudes toward relating specific hours of continuing education to hospital privileges, membership in local societies, membership in TMA, and re-licensure. The poll was mailed on Dec. 13, 1972, to 11,065 TMA members and the responses represent a 29% return rate.

Physicians were evenly divided on their attitudes toward relating continuing education hours to hospital privileges. Of those responding, 1,532, or 47.6% answered "yes" to the question (indicating they thought hospital privileges should be related to continuing education), and 1,520, or 47.3% answered "no."

Fewer physicians replied to the question on relating continuing education hours to membership in county medical societies. Of those who did, 1,231, or 38.3% answered "yes," while 1,799, or 56%, answered "no."

Most respondents—1,791, or 55.8%—felt that continuing education hours should not be related to membership in the Texas Medical Association. Those responding in the affirmative numbered 1,256, or 39.1%.

On the question of re-licensure, 54.9% (1,764) answered "no," and 1,271 physicians, or 39.6%, said that continuing education hours should be related to re-licensure.

The reports of the 1,950 physicians who recorded their 1972 continuing education activities will be included in their TMA membership files.

The Council on Medical Education and Hospitals has asked that the Committee on Continuing Education recommend suitable goals of achievement in continuing education for consideration at the 1973 Annual Session. The results of the continuing education survey will be used in formulating these recommendations, said Dr. Haines.

TMA Councilors rule on drugs, multiphasic health testing centers

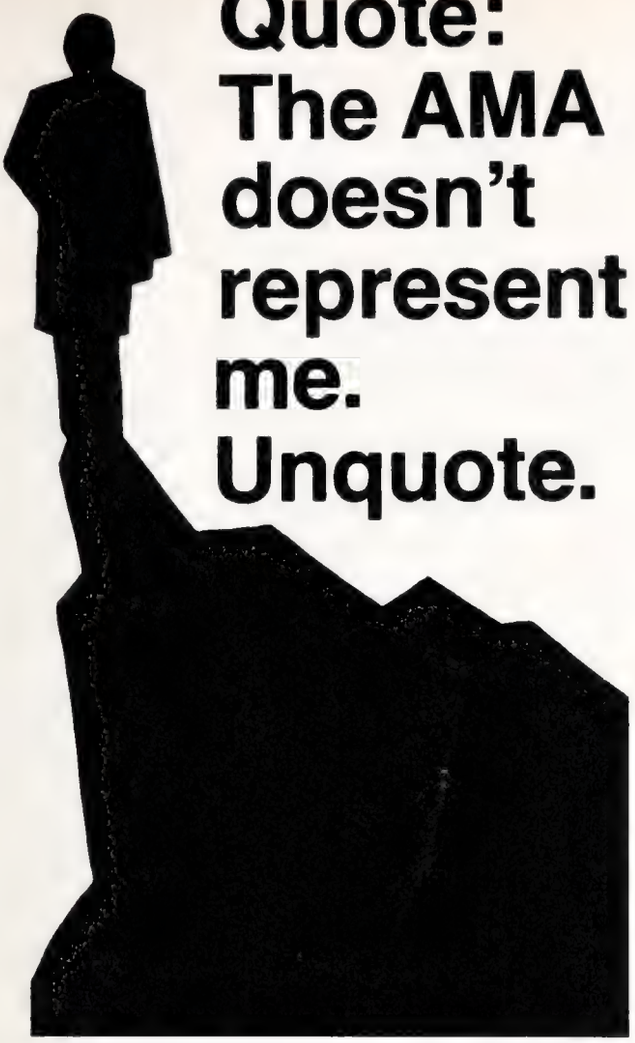
The Board of Councilors of the Texas Medical Association, meeting in Austin Jan. 20, ruled on several matters of concern to TMA members, among them advice concerning over-the-counter drugs and multiphasic health testing centers.

In response to an inquiry from the Texas Pharmaceutical Association, the Councilors ruled that when patients purchase an over-the-counter drug which might conflict with a prescribed drug, the pharmacist should advise the patient to check with his physician on possible drug incompatibility. The Councilors also suggested that the pharmacist notify the physician of this action.

The Councilors also laid out principles which should be followed in evaluating a health testing center.

The Board said that health testing centers present no ethical conflict if the following criteria are met: that the center report data only to the referring physician; provide a service for physicians and not substitute for physicians' skills; require physician referral; provide no interpretation of results; and require physician supervision.

Additional criteria are that the center use only registered and licensed personnel; that the patient give informed consent; that the center accept county medical society surveillance and approval; conform to the Medical Practice Act of Texas; and that there is no solicitation of patients.



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NEWS

TMA honors 8 communicators with 1973 Anson Jones Award

Four Texas newspapers, a magazine, radio station, and two television stations have been honored by the medical profession for their excellence in communicating health information to the public in 1972.

Selected as winners of the Texas Medical Association's Anson Jones Award competition, each news media winner will receive an engraved plaque and a cash prize. The winners announced were: Mary Jane Schier, *The Houston Post*; Margaret Deats Bott, *The Galveston Daily News*; Bobbi Schott, *The News Bulletin*, Castroville; Jack Moseley, *The Fort Worth Press*; David S. Jones, *The Exchange Post*; Thomas Wright, KAUM-FM, Houston; Harvie Edmunds, KIII-TV, Corpus Christi; and (Mrs.) Rudy Coons, KFDA-TV, Amarillo.

TMA President Dr. Braswell Locker of Brownwood, congratulated each of the winners, noting that there were 57 entries in the competition this year, and the quality of the entries was extremely high. "On behalf of the 11,500 members of the Texas Medical Association," Dr. Locker told the winners, "I am most grateful for the fine work you have done."

Dr. Locker will present award plaques and a $100 cash prize to each winner at a special luncheon ceremony during TMA's 106th annual meeting, to be held in Dallas, May 3-6.

Winning entries were selected on the basis of accuracy, significance, quality, public interest, and impact. Newspaper and magazine entries were reviewed by Wayne Danielson, PhD, dean, School of Communication, The University of Texas at Austin; Garth Jones, chief, Austin Bureau, The Associated Press; and Dr. Joseph M. Abell, Austin, a member of TMA's Scientific Publication Committee. Radio and television entries were reviewed by a panel selected by the Texas Association of Broadcasters. TMA's Council on Public Relations and Public Service made the final selection of winners.

Award winning entries from the newspapers in Houston, Galveston, and Castroville consisted of general coverage of medical and health subjects. A four-part series, "Terminal illness —the relentless enemy," won the award for Moseley, while a drug abuse series brought the honor to the monthly magazine of the Army and Air Force Exchange Service.

"The Tragedy of Sickle Cell Anemia" was the subject of KAUM radio's award-winning entry. KIII-TV won the award for their series of broadcasts on the emergency ambulance crisis in Corpus Christi. KFDA-TV's program about a community mental retardation service entitled "The Green Green Grass of Home," was selected as the top TV entry in the single-program category.

Presented annually since 1956, TMA's medical journalism award is named in honor of Dr. Anson Jones, a noted physician, statesman and journalist from early Texas history who was the last president of the Republic of Texas.

Additional information received on January scientific authors

The following information arrived after the January issue of *Texas Medicine* had gone to press:

Dr. Eric W. Martin, author of "Lethal Drug Interactions" (pp. 39-55, January issue), is now deputy director, Office of the Assistant to the Director for Medical Communications, Bureau of Drugs, Food and Drug Administration, Rockville, Md. 20852.

In "Radiographic Findings in Turner's Syndrome" by Drs. Michael K. Armstrong and L. B. Morettin, an additional acknowledgement is in order. Figure 11 was published originally in Cooley R. N. and Schrieber M. H.: *Radiology of the Heart and Great Vessels*, ed 2, Baltimore, Williams and Wilkins Co., 1968.

Your help is needed to inform Texans about the seriousness of venereal disease.

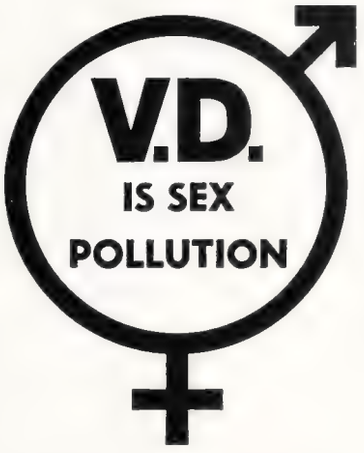
Venereal disease continues to strengthen its position as the number one communicable disease in the nation simply because people are not aware of the seriousness of the VD problem within their own communities or of the dangerous consequences of the disease.

Texas had the highest syphilis rate in the nation last year and also ranked very high in the incidence of gonorrhea.

As part of an educational program on VD, the Texas Medical Association has produced an informative pamphlet for free distribution to the public. You can help by ordering this pamphlet and distributing it in your community.

Particular attention needs to be directed toward young people. The majority of venereal disease cases in Texas are among the 15 to 24 year old age group and our state now is reporting 10 percent of all the venereally infected young adults in the nation.

Your assistance is needed to help control the serious spread of VD in Texas.



get the facts / seek early treatment

The venereal diseases syphilis and gonorrhea have become the number one infectious disease problem in the U.S. More than one million new cases are contracted each year. The use of penicillin and other antibiotics to cure VD brought a drop in reported cases after World War II, but in the last 10 years the rate has increased sharply because people with VD have not sought treatment. Texas in 1969 had the highest syphilis rate in the nation and also ranked very high in the incidence of gonorrhea.

WHO'S GETTING IT? Over half of all new VD infections are found in teenagers and young adults under 25 years of age. Texas now is reporting 10 percent of all the venereally infected young adults in the nation.

Young people should realize the possible dangers of promiscuous sexual behavior or "free love." VD Is *not* contracted from towels, dishes, or public toilets. It *is* spread through intimate contact, primarily sexual intercourse, with someone who has the disease.

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NEWS

Drs. Locker, Dryden to serve on medical education committee

The president and president-elect of the Texas Medical Association and the president of the Texas State Board of Medical Examiners are among 15 members of an Advisory Committee On Medical Education appointed recently by the Coordinating Board, Texas College and University System.

Drs. Braswell Locker and Charles Dryden, TMA president and president-elect, respectively, and Dr. J. G. Rodarte, Temple, president of the Texas State Board of Medical Examiners, will undertake, with the committee, a comprehensive study of the state's needs in medical education and will make recommendations to the Coordinating Board as to ways those needs might be met most effectively.

Former Coordinating Board Chairman Wayne E. Thomas called the committee's assignment highly important and said the decisions which the Coordinating Board will be making about medical education in the next few months "will have a great impact on future health care for our citizens and ultimately on the quality of life in this state." The board will be making decisions on several proposals to begin new medical programs, to establish a new medical school, and to continue contractual arrangements with independent medical schools.

Among the questions which the group has been asked to consider are: does the State of Texas need to offer students more opportunities to enter medical education; are cooperative medical education programs between various institutions desirable; is the level of state financial support for presently authorized programs and health care education adequate; and what the cost of recommended courses will be.

Proposals regarding medical education now pending before the Coordinating Board include: a proposal for a new academic degree program in basic health sciences submitted by North Texas State College with the Texas College of Osteopathic Medicine; a request from Texas A&M University to be designated the university system in Texas under whose governing board a medical education program would be established and operated under the terms of the Veterans Administration Medical School Assistance and Manpower Training Act of 1972; a proposal for a pre-clinical medical education program submitted by Texas A&M University with Baylor College of Medicine; a request for approval of a College of Medicine submitted by Texas Woman's University; and a proposal to establish cooperative medical training between The University of Texas at Austin and the Veterans Administration Hospital at Temple under the terms of the Veterans Administration Medical School Assistance and Health Manpower Training Act of 1972.

In addition to the Medical Advisory Committee, there is also a Task Force on Medical Education, composed of representatives from Texas schools which offer education in health careers. It is made up of 11 members, and will offer guidance to the Advisory Committee.

Members of the Medical Advisory Committee were named to represent the general public, medical doctors, doctors of dentistry, and doctors of osteopathic medicine.

In addition to Drs. Locker, Dryden and Rodarte, members of the Advisory Committee include: Dr. Frank B. Trice, Houston, past chairman of the Texas Dental Association Committee on Dental Education; Dr. Crawford McMurray, Ennis, past secretary of the TDA; Dr. Bobby G. Smith, Arlington, trustee of the American Osteopathic Association (AOA); Dr. John H. Boyd, Silverton, member of the Committee on Osteopathic Medical Education of the Texas Osteopathic Medical Association; and Dr. C. Raymond Olson, Fort Worth.

Representatives of the general public include: Mrs. Louise Evans Bruce, Amarillo, coordinator of the Amarillo Mental Health-Mental Retardation Regional Board of Trustees; Rev. L. L. Haynes, Fort Worth; Ben Love, Houston, chairman of the board, Texas Commerce Bank; Gordon Foster, El Paso, vice president, Farah Manufacturing Co.; and Max A. Mandel, Laredo, chairman, executive committee, Laredo National Bank.

The Task Force on Medical Education is made up of representatives from existing private and public medical and dental schools and from institutions proposing new programs. Members are: Dr. William H. Knisley, vice chancellor for health affairs of The University of Texas System; Dr. Alfred G. Knudson, dean of The University of Texas Graduate School of Biomedical Sciences at Houston; Dr. T. G. Blocker, Jr., president of The University of Texas Medical Branch at Galveston; Dr. Frank Harrison, president, The University of Texas Health Science Center at San Antonio; and Dr. Charles C. Sprague, president, The University of Texas Health Science Center at Dallas.

Other members are Dr. Cheves McC. Smythe, dean, The University of Texas Medical School at Houston; Dr. Grover Murray, president of Texas Tech University School of Medicine; Dr. Michael E. DeBakey, president, Baylor College of Medicine; Dr. George J. Luibel, chairman of the board of Texas College of Osteopathic Medicine; Dr. Richard Wainerdi, assistant vice president for academic affairs of the Texas A&M University System; and Dr. Gustave Ferre, vice president for academic affairs, North Texas State University.

State Sen. Betty Andujar was spotted in action at the Capitol in Austin. Sen. Andujar is the wife of Fort Worth pathologist John J. Andujar. She is the first physician's wife to serve in the State Senate.

Texas Part B Medicare users to be interviewed for survey

Bureau of Census interviewers are now conducting the Current Medicare Survey in Texas for the Bureau of Health Insurance of the Social Security Administration.

Martha S. McSteen, regional representative of the Department of Health, Education, and Welfare, says the purpose of the survey is to obtain current estimates of medical services used and charges incurred by persons covered by Part B of Medicare.

Data for the survey are collected by conducting interviews with a selected sample of Part B users. Mrs. McSteen says the interviewer will ask enrollees for details of their illnesses during a sample period, and for a description of medical care and costs for this period. In some cases, she says, the interviewer will ask for the names of physicians the enrollee has seen, but she stresses that these questions are purely an "aid to help enrollees recall more accurately their medical history." No data are compiled relating to individual physicians.

Mrs. McSteen says that sometimes patients may be confused about the purpose of the survey, and although they are referred to their local Social Security office, they often choose to discuss the interview with their physicians.

The Current Medicare Survey is necessary, says Mrs. McSteen, because there are considerable delays in recording uses and charges for medical services by the Social Security Administration's statistical system. Therefore, the Current Medicare Survey is conducted to obtain the most up-to-date information possible on Medicare Part B utilization.

NEWS

Scandinavia, Orient, Europe on itinerary for TMA travelers

TMA members, their spouses, and families will have the opportunity again this year to participate in Association travel programs to all parts of the world.

One of the most popular programs in 1972 was the Scandinavian Adventure, which was so enthusiastically received that the Board of Trustees has arranged to present the tour again this summer. Two flights have been scheduled. The first will leave from San Antonio and Dallas Aug. 11, and the second departs from Houston and Dallas Aug. 15.

This 14-day trip will feature visits to Stockholm, Helsinki, and Copenhagen. The trip will include direct round-trip flights via chartered jet, deluxe hotels, two gourmet meals each day at a choice of restaurants, a 70-pound baggage allowance, optional sightseeing tours, and no regimentation. The trip will cost $868 per person and is presented by INTRAV.

In the interest of continuing education, medical seminars will be conducted in Scandinavia. The program will include talks by Scandinavian health officials and visits to hospitals.

A second summer trip, the Rhine River cruise, will be an eight-day jaunt beginning July 22. The trip will begin in Zurich, where the TMA group may spend two days. Then there will be a four-night cruise on the Rhine to Amsterdam, where, after a day's stop, the group will depart for the US. This trip, presented by Marriott World Travel, will cost $599 per person.

Two more trips are scheduled during the fall, the Orient Adventure and the Aloha Holiday. Travelers to the Orient will depart Oct. 19 from Houston and Dallas for a 14-day trip to Tokyo and Hong Kong. The trip, presented by INTRAV, will cost $998.

To cap the year, an 8-day trip is scheduled to begin Dec. 21 and Dec. 22 from Houston, San Antonio, and Dallas for Honolulu. The price of the Aloha Holiday, presented by AITS, is $399 plus 10% tax and services.

More information and arrangements for all trips can be made by writing or calling Mrs. Jeanette Prentice, a member of the TMA staff and the Association's liaison for travel programs. Her address is 1801 N. Lamar, Austin 78701, and her phone is (512) 477-6704.

Information and brochures on all of the trips will be sent to TMA and WATMA members.

TMA medical insurance available to students and their dependents

Students enrolled in medical schools in Texas are now eligible to apply for coverage by the Texas Medical Association Major Medical Plan. This arrangement will enable potential members of the Association to avail themselves and their dependents of a comprehensive health insurance policy at a comparatively young age.

According to Dr. C. W. Castle of the Committee on Association Insurance Programs, the coverage may be retained as long as the student remains on the rolls of the medical school. Upon graduation, coverage will continue, providing the graduate promptly becomes a member of the Texas Medical Association. Membership is available to interns and residents.

Rates for students will be the same as those charged for physicians under age 40. As an example, a student may be covered under the plan with a $300 deductible for only $14 per quarter.

Enrollment information has been made available to all medical schools. Questions on the new program may be directed to the Association Insurance Office, Texas Medical Association, 1801 N. Lamar Blvd., Austin, 78701.

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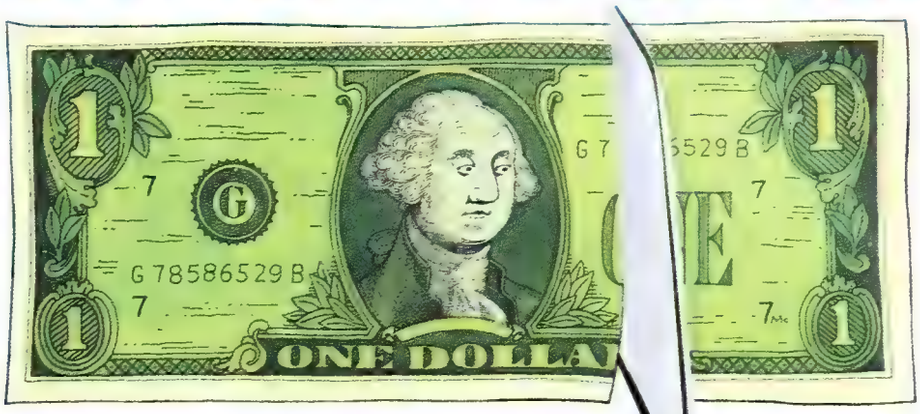
Armour brand of T_4

HAS BEEN CUT BY 30%.



Wouldn't it be a good idea to start your new hypothyroid patients on Letter®?

- New scored tablets for easy dosage adjustment.
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- 6 potencies.

0.025 mg. 0.05 mg. 0.1 mg 0.2 mg 0.3 mg 0.5 mg

Indications: Hypothyroid conditions.
Contraindications: Thyrotoxicosis, acute myocardial infarction and in the presence of uncorrected adrenal insufficiency because it increases the tissue demands for adrenocortical hormones and may cause an acute adrenal crisis.
Warnings: Should be used with caution in patients with cardiovascular disease, including hypertension Development of chest pain or other aggravation of cardiovascular disease will require a decrease in dosage.

Injection of epinephrine in patients with coronary artery disease may precipitate an episode of coronary insufficiency. This may be enhanced in patients receiving thyroid preparations. Careful observation is required if catecholamines are administered to patients in this category. Patients with coronary artery disease should be carefully observed during surgery, since the possibility of precipitating cardiac arrhythmias may be greater in those treated with thyroid hormones.

Thyroid replacement may potentiate anticoagulant effects with agents such as warfarin or bishydroxycoumarin and reduction of one-third in anticoagulant dosage should be undertaken upon initiation of LETTER® (sodium levothyroxine, Armour) tablets therapy. Subsequent anticoagulant dosage adjustment should be made on the basis of frequent prothrombin determinations.

In patients whose hypothyroidism is secondary to hypopituitarism, adrenal insufficiency will probably also be present. When adrenal insufficiency and hypothyroidism coexist, the adrenal insufficiency should be corrected by corticosteroids before administering thyroid hormone
Precautions: Patients with hypothyroidism, and especially myxedema, are particularly sensitive to thyroid preparations so that treatment should begin with small doses and increments should be gradual

In patients with diabetes mellitus, addition of thyroid hormone therapy may cause an increase in the required dosage of insulin or oral hypoglycemic agents. Conversely, decreasing the dose of thyroid hormone may possibly cause hypoglycemic reactions if the dosage of insulin or oral hypoglycemic agents is not adjusted
Adverse Reactions: Excessive dosage of thyroid medication may result in symptoms of hyperthyroidism. Since, however, the effects do not appear at once, the symptoms may not appear for one to three weeks after the dosage regimen is begun. The most common signs and symptoms of overdosage are weight loss, palpitation, nervousness, diarrhea or abdominal cramps, sweating tachycardia, cardiac arrhythmias, angina pectoris, tremors, headache, insomnia, intolerance to heat and fever. If symptoms of overdosage appear, discontinue medication for several days and reinstitute treatment at a lower dosage level
Dosage: Generally, the initial adult dosage is 0.1 mg daily This may be increased in small increments every 1 to 3 weeks until proper metabolic balance is achieved
Available: Bottles of 100 tablets, in 6 potencies 0.025 mg. (violet), 0.05 mg. (peach), 0.1 mg (pink), 0.2 mg (green), 0.3 mg. (yellow), and 0.5 mg. (white)

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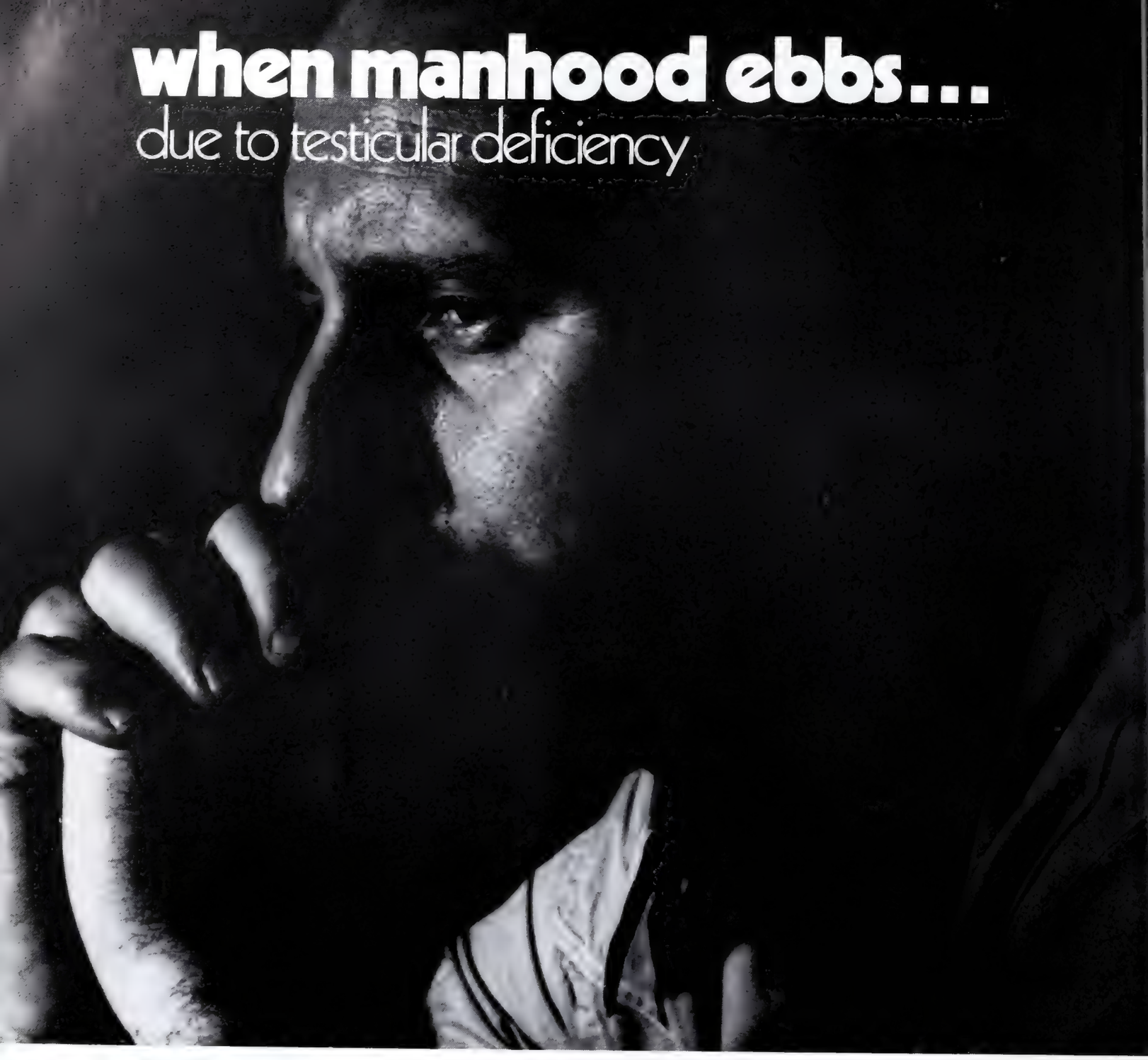
Phoenix, Arizona 85077



Halotestin® 5 mg tablets
fluoxymesterone, Upjohn
oral hormone replacement with parenteral-like potency

Halotestin® Tablets—2, 5 and 10 mg
(fluoxymesterone Tablets, U.S.P., Upjohn)

Indications in the male: Primary indication in the male is replacement therapy. Prevents the development of atrophic changes in the accessory male sex organs following castration:
1. Primary eunuchoidism and eunuchism. **2.** Male climacteric symptoms when these are secondary to androgen deficiency. **3.** Those symptoms of panhypopituitarism related to hypogonadism. **4.** Impotence due to androgen deficiency. **5.** Delayed puberty, provided it has been definitely established as such, and it is not just a familial trait.
In the female: 1. Prevention of postpartum breast manifestations of pain and engorgement. **2.** Palliation of androgen-responsive, advanced, inoperable female breast cancer in women who are more than 1, but less than 5 years post-menopausal or who have been proven to have a hormone-dependent tumor, as shown by previous beneficial response to castration.
Contraindications: Carcinoma of the male breast. Carcinoma, known or suspected, of the prostate. Cardiac, hepatic or renal decompensation. Hypercalcemia. Liver function impairment. Prepubertal males. Pregnancy.
Warnings: Hypercalcemia may occur in immobilized patients, and in patients with breast cancer. In patients with cancer this may indicate progression of bony metastasis. If this occurs the drug should be discontinued. Watch female patients closely for signs of virilization. Some effects may not be reversible. Discontinue if cholestatic hepatitis with jaundice appears or liver tests become abnormal.
Precautions: Patients with cardiac, renal or hepatic derangement may retain sodium and water thus forming edema. Priapism or excessive sexual stimulation, oligospermia, reduced ejaculatory volume, hypersensitivity and gynecomastia may occur. When any of these effects appear the androgen should be stopped.
Adverse Reactions: Acne. Decreased ejaculatory volume. Gynecomastia. Edema. Hypersensitivity, including skin manifestations and anaphylactoid reactions. Priapism. Hypercalcemia (especially in immobile patients and those with metastatic breast carcinoma). Virilization in females. Cholestatic jaundice.
How Supplied
2 mg—bottles of 100 scored tablets.
5 mg—bottles of 50 scored tablets.
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For additional product information, see your Upjohn representative or consult the package circular.

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IN EMPHYSEMA

optional therapy

THE mudranes®

All Mudranes are bronchodilator-mucolytic in action, and are indicated for symptomatic relief of bronchial asthma, emphysema, bronchiectasis and chronic bronchitis. **MUDRANE tablets** contain 195 mg. potassium iodide; 130 mg. aminophylline; 21 mg. phenobarbital (Warning: may be habit-forming); 16 mg. ephedrine HCl. **Dosage** is one tablet with full glass of water, 3 or 4 times a day. **Precautions** are those for aminophylline-phenobarbital-ephedrine combinations. **Iodide side-effects:** May cause nausea. Very long use may cause goiter. Discontinue if symptoms of iodism develop. **Iodide contraindications:** Tuberculosis; pregnancy (to protect the fetus against possible depression of thyroid activity). **MUDRANE-2 tablets** contain 195 mg. potassium iodide; 130 mg. aminophylline. **Dosage** is one tablet with full glass of water, 3 or 4 times a day. **Precautions** are those for aminophylline. **Iodide side-effects and contraindications are listed above. MUDRANE GG tablets** contain 100 mg. glyceryl guaiacolate; 130 mg. aminophylline; 21 mg. phenobarbital (Warning: may be habit-forming); 16 mg. ephedrine HCl. **Dosage** is one tablet with full glass of water, 3 or 4 times a day. **Precautions** are those for aminophylline-phenobarbital-ephedrine combinations. **MUDRANE GG-2 tablets** contain 100 mg. glyceryl guaiacolate; 130 mg. aminophylline. **Dosage** is one tablet with full glass of water, 3 or 4 times a day. **Precautions:** Those for aminophylline. **MUDRANE GG Elixir.** Each teaspoonful (5 cc) contains 26 mg. glyceryl guaiacolate; 20 mg. theophylline; 5.4 mg. phenobarbital (Warning: may be habit-forming); 4 mg. ephedrine HCl. **Dosage:** Children, 1 cc for each 10 lbs. of body weight; one teaspoonful (5 cc) for a 50 lb. child. Dose may be repeated 3 or 4 times a day. Adult, one tablespoonful, 4 times daily. All doses should be followed with ½ to full glass of water. **Precautions:** See those listed above for Mudrane GG tablets.

MUDRANE—original formula
First choice

MUDRANE-2
When ephedrine is too exciting or is contraindicated

MUDRANE GG
During pregnancy or when K.I. is contraindicated or not tolerated

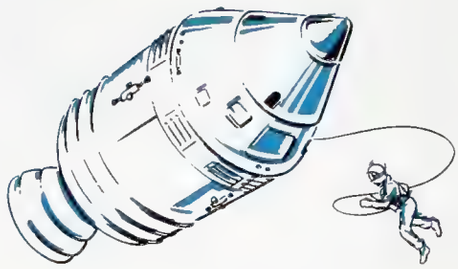
MUDRANE GG-2
A counterpart for Mudrane-2

MUDRANE GG ELIXIR
For pediatric use or where liquids are preferred

Clinical specimens available to physicians.

WILLIAM P. POYTHRESS & COMPANY, INC., RICHMOND, VIRGINIA 23217

Manufacturers of Ethical Pharmaceuticals



Man in space, now fait accompli, re-emphasizes the importance of Uro-Phosphate therapy. Research into the effect of space travel on the astronaut reveals that weightlessness causes loss of bone calcium. As the bones are required to bear less and less of the weight of the body they lose calcium, increasing the calcium content of the urine. When physical activity is reduced, the acidity of the urine should be adjusted to keep increased calcium in solution . . . . a prophylaxis to prevent kidney or bladder calculi.

Uro-Phosphate®

NOW A SUGAR-COATED TABLET

Each tablet contains: METHENAMINE, 300 mg.; SODIUM ACID PHOSPHATE, 500 mg.

Uro-Phosphate gives comfort and protection when inactivity causes discomfort in the urinary function. It keeps calcium in solution, preventing calculi; it maintains clear, acid, sterile urine; it encourages complete voiding and lessens frequency when residual urine is present.

Uro-Phosphate contains sodium acid phosphate, a natural urinary acidifier. This component is fortified with methenamine which is inert until it reaches the acid urinary bladder. In this environment it releases a mild antiseptic keeping the urine sterile.

Uro-Phosphate is safe for continuous use. There are no contra-indications other than acidosis. It can be given in sufficient amount to keep the urine clear, acid and sterile. A heavy sugar coating protects its potency.

Dosage:

For protection of the inactive patient 1 or 2 tablets every 4 to 6 hours is usually sufficient to keep the urine clear, acid and sterile.

2 tablets on retiring will keep residual urine acid and sterile, contributing to comfort and rest.

A clinical supply will be sent to physicians and hospitals on request.

WILLIAM P. POYTHRESS & COMPANY, INC., RICHMOND, VIRGINIA 23217

Manufacturers of Ethical Pharmaceuticals

TMA President Dr. Braswell Locker, second from right, and representatives of four Texas organizations sponsoring the public service program promoting the volunteer blood donor concept, look at two of the public service advertisements which will be used in the program. Seated with Dr. Locker, during a press conference at Dallas' Hotel Adolphus, are, from left to right, Franklin E. Wells, president of the Texas Osteopathic Hospital Association; Dr. Robert G. Haman, DO, president of the Texas Osteopathic Medical Association; Tom Beauchamp, president of Blue Cross-Blue Shield of Texas; and Jack Price, president of Texas Hospital Association.

NEWS

TMA joins effort to promote volunteer blood donor concept

The Texas Medical Association has joined with four other Texas organizations in a public service program to promote the volunteer blood donor concept throughout the state.

In addition to TMA, Blue Cross-Blue Shield of Texas, Texas Hospital Association, Texas Osteopathic Hospital Association, and Texas Osteopathic Medical Association are helping to sponsor the campaign.

The sponsoring groups have prepared a brochure, two radio and two television spots, and several newspaper advertisements, all promoting the volunteer blood donor concept and all to be used on a public service basis. The materials have been sent to public service directors of newspapers, and television and radio stations throught Texas. Also planned is a speakers bureau, with promotional materials and speakers to be made available to interested organizations and businesses in Texas.

Dr. Braswell Locker, TMA president, notes that there is an urgent need for blood in many localities. Use of whole blood has increased 500% in four years, while the normal life-span of blood is only 21 days. Therefore, says Dr. Locker, a continuous flow of blood is needed day after day, not just in time of emergency.

Spokesmen for other sponsoring groups pointed out that volunteer blood is low risk blood, and whole blood obtained from medically-sponsored non-profit blood banks has proved 10 to 12 times safer than blood obtained from channels where the donor is paid for blood.

The theme slogan for the campaign is "give blood and give life."

TMA introduces car leasing plan for physicians, families, groups

A program enabling physicians, their families, and clinic groups to lease automobiles at a substantial savings has been approved by TMA's Board of Trustees for introduction as an Association service.

The Trustees believe that auto leasing should prove attractive to physicians for several reasons. No cash investment is involved, they said, and leasing simplifies the individual's tax records. In addition, new car shopping and used car disposal problems are eliminated by leasing. The TMA program, they pointed out, could also save money for the lessee—between

NEWS

$200 and $500 per year on a contract secured through TMA.

The key feature of the TMA program will be its flexibility, according to the Trustees. Each physician will have the option to rent the auto of his choice, and while the cars will carry standard equipment, the lessee will have a choice of optional features such as AM-FM stereo, power windows and deluxe wheel covers.

Whenever possible, the leasing firm will try to deliver the automobile through the local dealer, or the dealer chosen by the physician. All operational costs (gas, oil, maintenance, tires, insurance, etc.) will be the responsibility of the lessee, but if the customer prefers, many of these costs can be built into the leasing contract.

Additional benefits include the issuance of a factory fleet owner card to each driver, which will usually enable him or her to purchase parts at a discount. Discounts on tire purchases may also be offered. Physicians will have a choice between "open end" and "closed end" contracts, with a leasing period suitable to their preferences. The program will be handled by Southwest Motor Leasing of Houston.

Complete information on the program will soon be mailed to all physicians who are members of TMA.

Sports, dancing, art exhibits to add flair to Annual Session

When you come to TMA's 106th Annual Session in Dallas this May, bring lots of energy because the TMA Council on Annual Session has scheduled at least one sports or entertainment event for each of the three days of the meeting.

Sports

In the sports department, Drs. Joseph C. Ogle and Halcuit Moore, Jr., both of Dallas, have scheduled tournaments in golf, skeet and trap, and tennis. The tennis tournament will be the first event of the whole meeting to get started, when it begins at 1 p.m. on Tuesday, May 1.

The tennis tournament will take place at the Samuell Grand Recreational Center Tennis Courts, and will include men's open singles, men's senior singles, men's open doubles, women's open singles and women's open doubles. Participants are eligible to enter two events and each is asked to furnish information on past performance so the draw can be properly seeded. Jim Gotses, tennis pro, will be tournament director. USLTA rules will be observed.

The golf tournament will be held Wednesday, May 2, at the Great Southwest Golf Club, with tee-off times available between 9 am and 1 pm. There will be a $20 entry fee which includes the greens fee and electric golf cart rental. Handicaps should be submitted to the club pro, and advance registration is required.

At 1 pm Thursday, May 3, the skeet and trap tournament will begin at the Dallas Gun Club. Both TMA and WATMA members are invited to participate. The entry fee will be $1.50 per round of skeet or trap, both of which include 25 targets. Shells are to be supplied by the competitors, or shells may be purchased at the Gun Club. The tournament will be conducted in groups of six persons for skeet and five for trap. Refreshments will be served and trophies will be awarded. Preregistration is necessary.

Saturday Night at the Fairmont

The International Ballroom of the Fairmont Hotel will be the site of the major entertainment event, the "Saturday Night at the Fairmont." Members, wives, and guests are all invited to attend for cocktails beginning at 7 pm, and dinner at 8, followed by entertainment and dancing in the ballroom. Music will be provided by the Mal Fitch Orchestra and vocalist Betty Fitch, and special entertainment by the Levee Singers is also scheduled. Total cost per person will be $20.

General Meeting Luncheons
The two general meeting luncheons, scheduled for 12:30 pm on Friday and Saturday, respectively, will also take place in the International Ballroom. Guest speakers for the two events are Dr. C. A. "Carl" Hoffman, president of the AMA, who'll speak on Friday; and Dr. Irvine H. Page, cardiologist and editor of *Modern Medicine*, to speak on Saturday. The Friday luncheon will honor members of the Fifty Year Club and their wives, while on Saturday, members of the Past Presidents Association will be honored.

Art Exhibition
The Sixth Annual TMA Art Exhibition will be held Thursday through Saturday in the Regency Ballroom of the Fairmont. Paintings (including water colors, drawings, and graphics), sculpture, photographs, and arts and crafts by TMA members, interns, residents, and Auxiliary members will be displayed. Awards will be given in each category, as well as a Best of Show Award to be presented at the Friday General Luncheon. Exhibitors may price their works and offer them for sale.

Alumni Events and Class Reunions
There will also be plenty of chances to meet old friends at the numerous alumni events and class reunions scheduled for Dallas. Schools which have plans for functions are: Baylor College of Medicine, Tulane University School of Medicine, University of Arkansas School of Medicine, University of Havana, University of Texas Medical Branch at Galveston, and The University of Texas Southwestern Medical School at Dallas.
Alumni events have been scheduled by the Baylor College of Medicine, classes of 1933, and 1943; University of Texas Medical Branch, classes of,1923, 1933, 1938, 1943, 1948, 1953, 1958, and 1963.
The officers and Board of Trustees of the Medical Branch Alumni Association will also meet on Thursday at the Fairmont.

TAFP physicians volunteer time to care for state legislators

When a legislator comes to Austin, especially if he is new, he faces many problems, not the least of which is becoming acquainted with a new town. He must find a place for himself and perhaps his family to live. He must learn his way around town, find stores, and make new friends. Often his children may attend a new school. Then, of course, there's always the problem of medical care in a new town.
For the second session in a row, the Texas Academy of Family Physicians (TAFP) is helping to do something about the latter problem with its Physician for the Legislature program. Each day of the current session, since Feb. 5, a TAFP member has been on hand at the Capitol to treat minor problems and refer major ones for members of the Legislature. Assisted by Nurse Vera Taylor, "on loan" from the Medical Assistance Division of the Texas State Department of Public Welfare, the physicians come from all parts of the state to voluntarily serve.
"The stress of the program is strictly medical," says Dr. Lamar McNew, TAFP coordinator for the project. Dr. McNew says that often the services of the Physician for the Legislature prevent lawmakers from losing time by allowing minor ailments to be treated on the spot. Of course, for more serious problems, the physician is able to refer the patient to another MD in Austin, who, in turn, may hospitalize the patient if necessary.
Dr. McNew is sure the program fills a definite need. "We've felt that probably every year someone has died because he was having chest pains and stayed (at the Capitol)," he said.
Nurse Taylor is also sure that the program is appreciated. "A number of House members came down to say how glad they were that we had the service again this session," she said.

State Sen. H.J. "Doc" Blanchard, Lubbock, pays a visit to TAFP physician Kirby J. Tatum, Odessa, who served as "physician for the day" Feb. 6. The TAFP program will continue throughout the 63rd Session of the Legislature.

NEWS

The Physician for the Legislature program is quartered in Room G63A. Major supplies are provided by the State Department of Health, and Dr. McNew says that most of the drugs dispensed are samples from the individual physicians' offices. There is no charge for the service and the physicians volunteer their time.

Dr. McNew says that physicians who volunteer pay all their own expenses, including travel and motels. When one includes time lost from practice for one or two days, Dr. McNew says that the total expense for the physician can be from $200 to $500. Looking at the program in one way, he says, the family physicians are spending thousands of dollars for the program.

There are many advantages to the program however. For the physician, the program enables him and often his family to observe the workings of the Legislature first-hand. An electronic beeper supplied by the Travis County Medical Society allows the physician to wander about the Capitol building during the day. Dr. McNew says most physicians would never come to Austin just to see the Legislature.

In addition, although the program is technically only for legislators, the physicians actually treat staff members, legislators, families, and even an occasional tourist. When a tourist, especially one from out-of-state, finds that there is a physician on call in the state Capitol, it creates lots of goodwill for the state of Texas, notes Dr. McNew.

Finally, he says, the mere presence of a good family physician shows legislators that the "GP" is not a dying breed; that there are still some out there, and that there's a need for more. So even though the program is not political at all, it does help create a favorable impression among legislators.

Dr. McNew says that it has been much simpler to secure services from physicians this session than it was during the 62nd Legislature. Since physicians now are more familiar with the program, they are better able to decide whether or not to participate.

Nurse Taylor says that physicians come from all over the state to serve. Some of the towns which have been represented so far, she says, include San Antonio, Odessa, Wichita Falls, Floresville, Brenham, Kerrville, Fort Worth, Trinity, Temple, and Fort Stockton.

The Physician for the Legislature program will continue throughout the 63rd Session.

Board appoints 8 new members to *Texas Medicine* committee

The Board of Trustees in January appointed eight new members to the Scientific Publication Committee of *Texas Medicine*, bringing the total membership to 17.

Breaking a long tradition, the names of Scientific Publication Committee members will be published in each issue of the journal on the Information for Authors page.

Nine members of the Committee are from Austin. They are Drs. Joseph M. Abell, Jr., orthopedic surgeon; Ernest C. Butler, otologist; Stanton W. Glazener, internist; Joseph Lancaster, obstetrician-gynecologist; Robert Askew, general surgeon; Ronald P. Boren, pediatrician; B. F. Johnson, family practitioner; John P. Schneider, urologist; and John P. Vineyard, internist. Dr. Vineyard is committee chairman.

New appointees are Drs. C. W. Daeschner, Galveston, pediatrician; George A. Gates, San Antonio, otorhinolaryngologist; R. Maurice Hood, Lubbock, thoracic surgeon; Paul C. Peters, Dallas, urologist; Richard S. Ruiz, Houston, ophthalmologist; H. Irving Schweppe, Jr., Houston, pulmonary diseases specialist; Theodore P. Votteler, Dallas, pediatrician; and Jesse D. Cone, Odessa, family physician.

If she comes up with otitis externa...

Coly-Mycin® S/Otic

WITH NEOMYCIN AND HYDROCORTISONE
(colistin sulfate – neomycin sulfate – thonzonium bromide – hydrocortisone acetate otic suspension)

- ☐ anti-inflammatory/antipruritic
- ☐ broadly anti-infective
  - vs. many Gram-negative invaders... including *Pseudomonas aeruginosa.*
  - vs. many Gram-positive invaders... including *Staph. aureus.*
- ☐ normalizes pH

Each ml contains: Colistin base activity, 3 mg (as the sulfate); Neomycin base activity, 3.3 mg (as the sulfate); Hydrocortisone acetate, 10 mg (1%); Thonzonium bromide, 0.5 mg (0.05%). Polysorbate 80, acetic acid, and sodium acetate in a buffered aqueous vehicle. Thimerosal, 0.002%, added as a preservative. *Indications:* Coly-Mycin S Otic with Neomycin and Hydrocortisone is indicated in the treatment of acute and chronic external otitis due to or complicated by bacterial and/or fungal infections caused by susceptible organisms. It is also indicated for the prophylaxis of "swimmer's ear." *Contraindication:* A history of sensitivity to any of the components or in tubercular, fungal and most viral lesions, especially herpes simplex, vaccinia and varicella. *Precautions:* If sensitivity or irritation occurs, medication should be discontinued promptly. Overgrowth of resistant organisms is possible. Use with care in cases with perforated eardrum or in long standing otitis media because of the possibility of ototoxicity caused by neomycin. There are articles in the current medical literature that indicate an increase in the prevalence of persons sensitive to neomycin. *Adverse Reactions:* A low incidence of mild burning or painful sensation in the ear has been reported. Such local effects do not usually require discontinuance of medication. Sensitivity reactions were reported in a few instances. *Administration and Dosage:* After the ear has been completely cleansed and dried, Coly-Mycin S Otic with Neomycin and Hydrocortisone should be instilled (a sterile dropper is provided) into the canal, or applied to the surface of the affected ear. Shake the suspension well before using. The recommended therapeutic dosage is four (4) drops, 3 times a day; prophylactically, four (4) drops before and after swimming. Until acute pain has subsided, it may be preferable or necessary in some patients to pack the ear with a cotton wick saturated with Coly-Mycin S Otic with Neomycin and Hydrocortisone. The wick should be kept wet at all times. The patient should be instructed to avoid contaminating the dropper, especially with the fingers. Coly-Mycin S Otic with Neomycin and Hydrocortisone is stable for eighteen (18) months at room temperature; however, prolonged exposure to higher temperatures should be avoided. *Supplied:* Coly-Mycin S Otic with Neomycin and Hydrocortisone is available in bottles containing 5 ml or 10 ml. Each ml contains 3 mg of colistin base activity (as the sulfate), 3.3 mg of neomycin base activity (as the sulfate), 10 mg of hydrocortisone acetate, 0.5 mg of thonzonium bromide, polysorbate 80, acetic acid and sodium acetate. A small amount (0.02 mg/ml) of thimerosal has been added as a preservative. Each package contains a sterile dropper. Full information is available on request.

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SATURDAY NIGHT AT THE FAIRMONT IS YOUR EVENING

An elegant evening in the beautiful International Ballroom of the Fairmont Hotel is planned for you and your lady Saturday night, May 5, during the TMA 1973 Annual Session.

The opulence of the surroundings will be enhanced by the Mal Fitch Orchestra, the big sound on the Dallas social scene. Fitch's 14-member group features his charming wife, Betty, as vocalist. The versatile group has captured the sound of Blood, Sweat and Tears, Tijuana Brass, Guy Lombardo and Glenn Miller.

Arrive at 7 p.m. for a happy hour of cocktails and conversation. Then, Fairmont chefs promise you an outstanding rib eye steak dinner. The evening's entertainment also includes the Levee Singers whose powerful show is made up of many different kinds of music—singalongs, country and western, banjo solos, light rock, ballads, comedy numbers and parodies. It will be fast-moving and fun for everyone!

The cost per person is $20, which includes cocktails, entertainment, dinner, and dancing. Proceeds will go to the Physician's Benevolent Fund of TMA and the Woman's Auxiliary. Mark your calendar and order your tickets now for SATURDAY NIGHT AT THE FAIRMONT, May 5, 7 p.m.

DALLAS 73

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Important Note: This drug is not a simple analgesic. Do not administer casually. Carefully evaluate patients before starting treatment and keep them under close supervision. Obtain a detailed history, and complete physical and laboratory examination (complete hemogram, urinalysis, etc.) before prescribing and at frequent intervals thereafter. Carefully select patients, avoiding those responsive to routine measures, contraindicated patients or those who cannot be observed frequently. Warn patients not to exceed recommended dosage. Short-term relief of severe symptoms with the smallest possible dosage is the goal of therapy. Dosage should be taken with meals or a full glass of milk. Patients should discontinue the drug and report immediately any sign of: fever, sore throat, oral lesions (symptoms of blood dyscrasia); dyspepsia, epigastric pain, symptoms of anemia, black or tarry stools or other evidence of intestinal ulceration or hemorrhage, skin reactions, significant weight gain or edema. A one-week trial period is adequate. Discontinue in the absence of a favorable response. Restrict treatment periods to one week in patients over sixty.

Indications: Acute gouty arthritis, rheumatoid arthritis, rheumatoid spondylitis.

Contraindications: Children 14 years or less; senile patients; history or symptoms of G.I. inflammation or ulceration including severe, recurrent or persistent dyspepsia; history or presence of drug allergy; blood dyscrasias; renal, hepatic or cardiac dysfunction; hypertension; thyroid disease; systemic edema; stomatitis and salivary gland enlargement due to the drug; polymyalgia rheumatica and temporal arteritis; patients receiving other potent chemotherapeutic agents, or long-term anticoagulant therapy.

Warnings: Age, weight, dosage, duration of therapy, existence of concomitant diseases, and concurrent potent chemotherapy affect incidence of toxic reactions. Carefully instruct and observe the individual patient, especially the aging (forty years and over) who have increased susceptibility to the toxicity of the drug. Use lowest effective dosage. Weigh initially unpredictable benefits against potential risk of severe, even fatal, reactions. The disease condition itself is unaltered by the drug. Use with caution in first trimester of pregnancy and in nursing mothers. Drug may appear in cord blood and breast milk. Serious, even fatal, blood dyscrasias, including aplastic anemia, may occur suddenly despite regular hemograms, and may become manifest days or weeks after cessation of drug. Any significant change in total white count, relative decrease in granulocytes, appearance of immature forms, or fall in hematocrit should signal immediate cessation of therapy and complete hematologic investigation. Unexplained bleeding involving CNS, adrenals, and G.I. tract has occurred. The drug may potentiate action of insulin, sulfonylurea, and sulfonamide-type agents. Carefully observe patients taking these agents. Nontoxic and toxic goiters and myxedema have been reported (the drug reduces iodine uptake by the thyroid). Blurred vision can be a significant toxic symptom worthy of a complete ophthalmological examination. Swelling of ankles or face in patients under sixty may be prevented by reducing dosage. If edema occurs in patients over sixty, discontinue drug.

Precautions: The following should be accomplished at regular intervals: Careful detailed history for disease being treated and detection of earliest signs of adverse reactions; complete physical examination including check of patient's weight; complete weekly (especially for the aging) or an every two week blood check; pertinent laboratory studies. Caution patients about participating in activity requiring alertness and coordination, as driving a car, etc. Cases of leukemia have been reported in patients with a history of short- and long-term therapy. The majority of these patients were over forty. Remember that arthritic-type pains can be the presenting symptom of leukemia.

Adverse Reactions: This is a potent drug; its misuse can lead to serious results. Review detailed information before beginning therapy. Ulcerative esophagitis, acute and reactivated gastric and duodenal ulcer with perforation and hemorrhage, ulceration and perforation of large bowel, occult G.I. bleeding with anemia, gastritis, epigastric pain, hematemesis, dyspepsia, nausea, vomiting and diarrhea, abdominal distention, agranulocytosis, aplastic anemia, hemolytic anemia, anemia due to blood loss including occult G.I. bleeding, thrombocytopenia, pancytopenia, leukemia, leukopenia, bone marrow depression, sodium and chloride retention, water retention and edema, plasma dilution, respiratory alkalosis, metabolic acidosis, fatal and nonfatal hepatitis (cholestasis may or may not be prominent), petechiae, purpura without thrombocytopenia, toxic pruritus, erythema nodosum, erythema multiforme, Stevens-Johnson syndrome, Lyell's syndrome (toxic necrotizing epidermolysis), exfoliative dermatitis, serum sickness, hypersensitivity angiitis (polyarteritis), anaphylactic shock, urticaria, arthralgia, fever, rashes (all allergic reactions require prompt and permanent withdrawal of the drug), proteinuria, hematuria, oliguria, anuria, renal failure with azotemia, glomerulonephritis, acute tubular necrosis, nephrotic syndrome, bilateral renal cortical necrosis, renal stones, ureteral obstruction with uric acid crystals due to uricosuric action of drug, impaired renal function, cardiac decompensation, hypertension, pericarditis, diffuse interstitial myocarditis with muscle necrosis, perivascular granulomata, aggravation of temporal arteritis in patients with polymyalgia rheumatica, optic neuritis, blurred vision, retinal hemorrhage, toxic amblyopia, retinal detachment, hearing loss, hyperglycemia, thyroid hyperplasia, toxic goiter, association of hyperthyroidism and hypothyroidism (causal relationship not established), agitation, confusional states, lethargy; CNS reactions associated with overdosage, including convulsions, euphoria, psychosis, depression, headaches, hallucinations, giddiness, vertigo, coma, hyperventilation, insomnia; ulcerative stomatitis, salivary gland enlargement.

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For complete details, including dosage, please see full prescribing information.

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NATIONAL STUDENT RESEARCH FORUM

Sponsored annually since 1968 by the Student American Medical Association and The University of Texas Medical Branch at Galveston, the National Student Research Forum will be held at Galveston's Holiday Inn, April 26-28. Addressing the SAMA-UTMB Student Form will be Dr. Edmund D. Pellegrino, vice president for health sciences at the State University of New York at Stony Brook, and Dr. Robert J. Huebner, chief of the viral carcinogenesis branch of the National Cancer Institute, National Institutes of Health. Medical students, interns, and residents from over the nation and Canada will present research papers in the clinical and basic sciences. Research excellence is recognized by the presentation of money awards and plaques.

Contact: Myles B. Knape, Director of Information, The University of Texas Medical Branch, Galveston 77550.

TEXAS SURGICAL SOCIETY

Dr. William R. Drucker, professor of Surgery and dean, University of Virginia Medical School, Charlottesville, will be guest speaker at the April 1-3 meeting of Texas Surgical Society. The meeting will be held at the Hotel Galvez in Galveston, and is open to Society members and invited guests.

Contact: Dr. Robb H. Rutledge, M.D., 901 S. Lake, Ft. Worth 76104, Sec.

AMERICAN ASSOCIATION OF SUICIDOLOGY

Problems of operating suicide prevention centers, and a discussion of women in suicide are among the topics to be discussed at the annual meeting of the American Association of Suicidology April 27-29 at Houston's Marriott Hotel. Other topics on the program include the issue of taping telephone calls, epidemiology, anti-suicide techniques, and follow-up after identification of suicidal individuals. Registration fee is $15 for members of the association, $15 for volunteers, and $20 for non-members.

Contact: Dr. Eric G. Comstock, local arrangements chairman, PO Box 2565, Houston 77001.

COMING MEETINGS

CURRENT NATIONAL MEETINGS

AMERICAN ACADEMY OF FACIAL PLASTIC AND RECONSTRUCTIVE SURGERY, INC., will feature discussions on rehabilitation of the paralyzed face and management of eyelid problems in facial plastic surgery during its annual scientific meeting April 3-5, in St. Louis. Presentation topics are: "Importance of Chin Reduction in Profileplasty," "Controlled Nasal Osteotomy and Infracture for Rhinoplasty," "Homologous Nasal Hump Implant," "Blindness Following Blepharoplasty," "External Fixation of Facial Fractures," and "Psychiatric Aspects of Esthetic Facial Surgery." Also to be covered in panel discussion is "Psychiatric Screening of Patients for Facial Plastic Surgery." Contact: Dr. Carl N. Patterson, 1110 W. Main St., Durham, NC 27701, Sec.

AMERICAN ACADEMY OF PEDIATRICS' spring session is scheduled for April 9-12 in Boston. Thirty-eight child health care subjects ranging from recent advances in pediatric surgery to adolescent drug dependence will be presented. Topics to be covered include complications of cystic fibrosis, children out of step with immunizations, indications for use of human growth hormone, fluoride by drop or pill, and present status of rubella vaccine. Discussions will also focus on many social and behavioral aspects of pediatrics, including child health supervision, day care centers, current status of the pediatric and school nurse practitioner, and the pros and cons of screening lead and sickle cell diseases. Contact: Dr. Robert G. Frazier, 1801 Hinman Ave., Evanston, Ill. 60204, executive director.

For other courses and symposiums, see Continuing Education Courses, pp. 45-46.

AMERICAN ASSOCIATION OF ANATOMISTS will hold its annual meeting April 9-12 at Cornell University Medical College, New York. The meeting will include more papers than any previous meeting of the Association, and will be of special interest to embryologists, with presentations on "Recent Morphological Advances in Mammalian Reproduction: Ovulation Through Implantation," and "Environmental Influences on Embryonic Development." Contact: John C. Finerty, American Association of Anatomists, Office of the Vice Chancellor, Louisiana State University Medical Center, 1542 Tulane Ave., New Orleans, La. 70112, Prog. Chrmn.

AMERICAN COLLEGE OF ALLERGISTS' 29th Annual Congress is scheduled for April 7-12 at the Marriott Motor Hotel in Atlanta, Ga. A day of Respiratory Pathophysiology is scheduled, and will include presentations of differential diagnosis of obstructive airways disease, measurement of airways reactivity in asthma, blood gas abnormalities in relation of clinical state in asthma, pathophysiology of respiratory insufficiency, and management of respiratory insufficiency. Also included in the program format are a symposium on immunology, a session on immunologically mediated diseases of the lung, section on technology, aerobiology section, and a general session. Contact: Dr. John D. Gillaspie, 2141 14th St., Boulder, Colo. 80302, Exec. Sec.

AMERICAN COLLEGE OF SURGEONS will meet at the Americana and Hilton Hotels in New York City, April 1-4. General sessions will be devoted to surgical infections, cancer of the salivary glands, hepatitis and the general surgeon, hand injuries, coronary artery diseases, respiratory insufficiency, cancer, acute gastrointestinal hemorrhage, hemorrhage and thrombosis in 1973, and granulomatous disease of the intestine. Cancer, shock, gastrointestinal surgery, pediatric surgery, fluids and electrolytes, trauma, peripheral vascular disease, and endocrine surgery are topics of postgraduate courses being offered during the meeting. Contact: C. Rollins Hanlon, 55 E. Erie St., Chicago 60611, director.

AMERICAN GERIATRICS SOCIETY, in collaboration with The Gerontological Society, will meet April 25-26 in Beverly Hills, Calif. In addition to presentations by guest speakers, there will be scientific exhibits to supplement formal presentations and to explore other facets of geriatric medicine. "Hypotensive Encephalopathy (Midnight Stroke) in the Aged," "Colovesical Fistula," "Peritoneoscopy in Geriatric Patients," "The Evaluation of the Aged Patient," "Gynecological Problems in the Aging Woman," "Treatment of Psoriasis," "Gastrointestinal Bleeding in Geriatric Patients—Diagnosis and Management," and "Problems in Geriatric Health Care Delivery" will be presented. Contact: Dr. Edward Henderson, 10 Columbus Circle, New York 10019, Exec. Dir.

AMERICAN INDUSTRIAL HEALTH CONFERENCE, the annual meetings of Industrial Medical Association and American Association of Industrial Nurses, will take place April 16-19 in Denver. Topics to be presented during the IMA portion of the conference are: "ECG Analysis by Computer," "Occupational Carcinogenesis," "Epidemiological Studies in Industry," "Diagnosis and Assessment of Hearing Loss," "Electrical Burns of the Hand," "Epidemic Kerato Conjunctivitis in Industry," "Management of Chronic Coronary Artery Disease," and "Rehabilitation in Coronary Artery Disease." Contact: Howard N. Schulz, 150 N. Wacker Dr., Chicago 60606, Exec. Dir.

AMERICAN MEDICAL ASSOCIATION's Judicial Council announces that the Fourth National Congress on Medical Ethics will be held April 26-28 at the Washington-Hilton in Washington, DC. Distinguished speakers and panelists will discuss ethical issues of growing concern to medical professionals and society—from the more traditional, such as fee splitting and solicitation—to the more current, such as genetic engineering and behavior control. Contact: AMA, Judicial Council, 535 N. Dearborn St., Chicago 60610.

AMERICAN MEDICAL ASSOCIATION has scheduled its 7th National Congress on the Socioeconomics of Health Care for April 13-14 at Chicago's Marriott Motor Hotel. The congress is designed to assist interested physicians to increase personal productivity by adoption of more efficient business and office practice procedures and to identify sources of information and services in the area of practice management. Program content includes MD productivity, office productivity, and systems productivity. Contact: AMA, Division of Medical Practice, 535 N. Dearborn St., Chicago 60610.

AMERICAN SOCIETY FOR CLINICAL PHARMACOLOGY AND THERAPEUTICS' 74th annual meeting will be held at the Monteleone Hotel in New Orleans, March 22-23. "Clinical Toxicology" and "New Developments in Cardiovascular Drug Therapy" are topics to be studied in symposia. In concurrent sessions, cardiovascular drugs, drug metabolism, chemotherapy, clinical trials, CNS active drugs, endocrine —anti-inflammatory drugs, pharmacokinetics, and clinical toxicology will be discussed. Contact: Elaine Galasso, 1718 Gallagher Rd., Norristown, Pa. 19401, executive secretary.

AMERICAN SOCIETY OF INTERNAL MEDICINE's April 6-8 annual meeting will be concerned with implications of physician regulation—management or manipulation. Scheduled in Chicago at the Palmer House Hotel, the program content includes a session on future trends in regulation (considerations of PSRO), a panel discussion on the destiny of medicine, and presentations on medical-legal regulations and the consumer's view of regulations. Contact: William R. Ramsey, 525 The Hearst Bldg., San Francisco 94103, Exec. Dir.

MORE COMING MEETINGS

■ Denotes Texas meetings.

ALSO IN APRIL

AMERICAN ACADEMY OF NEUROLOGY, Boston, April 23-28, 1973. Stanley A. Nelson, 4005 W. 65th St., Minneapolis 55435, Exec. Sec.

AMERICAN ASSOCIATION OF ANATOMISTS, New York City, April 9-12, 1973. Dr. John E. Pauly, University of Arkansas School of Medicine, Little Rock 72201, Sec.

■ AMERICAN ASSOCIATION OF PLANNED PARENTHOOD PHYSICIANS, Houston, April 11-14, 1973. Richard A. Ferguson, 3601 Fannin St., Houston 77004, Exec. Dir.

■ AMERICAN ASSOCIATION FOR THORACIC SURGERY, Dallas, April 16-18, 1973. William T. Maloney, 6 Beacon St., Suite 620, Boston 02108, Exec. Sec.

AMERICAN COLLEGE OF ALLERGISTS, Atlanta, April 7-12, 1973. Dr. John D. Gillaspie, 2141 14th St., Boulder, Colo. 80302, Exec. Sec.

AMERICAN COLLEGE HEALTH ASSOCIATION, Chicago, April 24-27, 1973. James W. Dilley, 2807 Central St., Evanston, Ill. 60201, Exec. Dir.

AMERICAN COLLEGE OF PHYSICIANS, Chicago, April 8-13, 1973. Dr. Edward C. Rosenow, Jr., 4200 Pine St., Philadelphia 19104, Exec. V.-Pres.

AMERICAN COLLEGE OF RADIOLOGY, San Francisco, April 1-6, 1973. William S. Stronach, 20 N. Wacker Dr., Room 2920, Chicago 60606, Exec. Dir.

■ EIGHTH DISTRICT MEDICAL SOCIETY, Bay City, April 14, 1973. Dr. Edward F. Pesek, 1413 Avenue G., Bay City 77414, Sec.

INTERNATIONAL ACADEMY OF PROCTOLOGY, 25th Annual Congress and Teaching Seminar, Tokyo, Hong Kong, Thailand, April 29-May 14, 1973. Dr. Alfred J. Cantor, 147-41 Sanford Ave., Flushing, NY 11355, Exec. Officer.

NATIONAL COUNCIL ON ALCOHOLISM, INC., Washington, DC, April 4-6, 1973. William W. Moore, Jr., 2 Park Ave., New York 10016, Exec. Dir.

■ TENTH DISTRICT MEDICAL SOCIETY, April 1973. E. Mittendorf, PO Box 768, Beaumont 77704, Exec. Sec.

■ TEXAS DENTAL ASSOCIATION, Austin, April 29-May 2, 1973. Dr. Joe C. Carrington, Jr., 4920 Interregional Hwy., Austin 78751, Exec. Officer.

■ TEXAS STATE BOARD OF EXAMINERS IN THE BASIC SCIENCES, Galveston, Houston, and Fort Worth, April 6-7, 1973. Betty J. Anderson, 1012 Sam Houston State Office Bldg., 201 E. 14th St., Austin 78701, Exec. Sec.

■ TEXAS SURGICAL SOCIETY, Galveston, April 1-3, 1973. Dr. Robb H. Rutledge, 901 S. Lake, Ft. Worth 76104, Sec.

■ TEXAS TUBERCULOSIS AND RESPIRATORY DISEASE ASSOCIATION, Dallas, April 13-14, 1973. Pauline K. Matthis, 2406 Manor Rd., Austin 78722, Exec. Dir.

■ THIRTEENTH DISTRICT MEDICAL SOCIETY, Mineral Wells, April 1973. Dr. Dorothy Patras, PO Box 1118, Ft. Worth 76101, Sec-Treas.

MAY

AEROSPACE MEDICAL ASSOCIATION, Las Vegas, May 7-10, 1973. Dr. Merrill H. Goodwin, Washington Nat'l. Airport, Washington, DC 20001, Exec. Sec.

■ AMERICAN ASSOCIATION OF MEDICAL ASSISTANTS, STATE OF TEXAS, Wichita Falls, May 16-20, 1973. Patty Fouts, 2211 Lucas St., Wichita Falls 76303, Corr. Sec.

AMERICAN COLLEGE OF OBSTETRICIANS AND GYNECOLOGISTS, Bal Harbour, Fla., May 21-24, 1973. Dr. Michael Newton, 79 W. Monroe, Chicago 60603, Exec. Dir.

■ AMERICAN COLLEGE OF SURGEONS, NORTH TEXAS CHAPTER, Dallas, May 19, 1973. Dr. Ronald F. Garvey, 6011 Harry Hines Blvd., Dallas 75235, Sec.

AMERICAN GASTROENTEROLOGICAL ASSOCIATION, New York City, May 20-26, 1973. Charles B. Slack, 6900 Grove Rd., Thorofare, NJ 08086, Exec. Sec.

■ AMERICAN MEDICAL WRITERS ASSOCIATION, Dallas, May 5, 1973. Judy Ingram, Scott and White Clinic, Temple 76501, Sec.

AMERICAN PEDIATRIC SOCIETY, San Francisco, May 16-20, 1973. Dr. C. D. Cook, 333 Cedar St., New Haven, Conn. 06514, Sec.

■ AMERICAN PHYSICAL THERAPY ASSOCIATION, TEXAS CHAPTER, Waco, May 18-20, 1973. Hilda F. McKethan, 4162 Monaco, Corpus Christi 78411, Sec.

AMERICAN PSYCHIATRIC ASSOCIATION, Honolulu, May 7-11, 1973. Dr. Walter E. Barton, 1700 18th St., NW, Washington, DC 20009, Med. Dir.

■ AMERICAN PSYCHIATRIC ASSOCIATION, TEXAS DISTRICT BRANCH, Dallas, May 5, 1973. Dr. Harry K. Davis, 200 University Blvd., Galveston 77550, Sec.-Treas.

AMERICAN SOCIETY FOR AESTHETIC PLASTIC SURGERY, INC., Monterey, Calif., May 29-June 1, 1973. Dr. Eugene H. Courtiss, 2000 Washington St., Newton Lower Falls, Boston 02162, Sec.

AMERICAN THORACIC SOCIETY, New York City, May 20-23, 1973. Robert Weymueller, 1740 Broadway, New York 10019, Exec. Sec.

AMERICAN UROLOGICAL ASSOCIATION, INC., New York City, May 14-17, 1973. Richard J. Hannigan, 1120 N. Charles St., Baltimore 21201, Exec. Sec.

MEDICAL LIBRARY ASSOCIATION, Kansas City, Kan., May 27-31, 1973. Helen Brown Schmidt, 919 N. Michigan Ave., Chicago 60611, Exec. Sec.

NATIONAL LEAGUE FOR NURSING, Minneapolis, May 6-9, 1973. Margaret E. Walsh, 10 Columbus Circle, New York 10019, Sec. & Gen. Dir.

NATIONAL SOCIETY FOR THE PREVENTION OF BLINDNESS, INC., New York City, May 16-18, 1973. Dr. Wilfred D. David, 79 Madison Ave., New York 10016, Exec. Dir.

AMERICAN LUNG ASSOCIATION, New York City, May 20-23, 1973. Dr. Robert J. Anderson, 1740 Broadway, New York 10019, Mng. Dir.

■ SOUTH CENTRAL ASSOCIATION OF BLOOD BANKS, Corpus Christi, May 23-25, 1973. Elsie Howard, 2109 Commerce, Dallas 75201, Exec. Sec.

SOUTHWESTERN SURGICAL CONGRESS, Scottsdale, Ariz., May 7-10, 1973. Dr. Jack A. Barney, 301 Pasteur Medical Bldg., Oklahoma City 73101, Sec.-Treas.

■ TEXAS COMMISSION ON ALCOHOLISM, Dallas, May 3, 1973. K. E. Beahan, 809 Sam Houston State Office Bldg., Austin 78701, Exec. Dir.

■ TEXAS DERMATOLOGICAL SOCIETY, Dallas, May 5, 1973. Dr. Eugene P. Schoch, Jr., 3A Medical Arts Sq., Austin 78705, Sec.

■ TEXAS HOSPITAL ASSOCIATION, Houston, May 20-23, 1973. Gordon L. Wright, PO Box 4553, Austin 78765, Dir. of Ed. & Pub. Info.

■ **TEXAS MEDICAL ASSOCIATION, Dallas, May 3-6, 1973. C. Lincoln Williston, 1801 N. Lamar Blvd., Austin 78701, Exec. Sec.**

■ TEXAS OPHTHALMOLOGICAL ASSOCIATION, Dallas, May 4, 1973. Dr. David S. Dow, 2223 Austin Ave., Waco 76701, Sec.

JUNE

AMERICAN DIABETES ASSOCIATION, Chicago, June 23-24, 1973. J. Richard Connelly, 18 East 48th St., New York 10017, Exec. Dir.

AMERICAN ELECTROENCEPHALOGRAPHIC SOCIETY, Boston, June 14-16, 1973. Margaret Henry, 36391 Maple Grove Rd., Willoughby Hills, Ohio 44094, Exec. Sec.

■ AMERICAN HEART ASSOCIATION, TEXAS AFFILIATE INC., Dallas, June 19-24, 1973. Dudley H. Hafner, PO Box 9928, Austin 78766, Exec. Dir.

AMERICAN MEDICAL ASSOCIATION, New York City, June 24-28, 1973. AMA, 535 N. Dearborn St., Chicago 60610.

AMERICAN NEUROLOGICAL ASSOCIATION, Montreal, June 11-13, 1973. Dr. Samuel A. Trufant, Cincinnati General Hospital, Cincinnati 45229, Sec.

■ AMERICAN PHYSICAL THERAPY ASSOCIATION, Houston, June 24-29, 1973. Royce P. Noland, 1156 15th St. NW, Washington, DC 20005, Exec. Dir.

AMERICAN PROCTOLOGIC SOCIETY, Detroit, June 10-14, 1973. Harriette Gibson, 320 W. Lafayette, Detroit 48226, Adm. Sec.

■ TEXAS PHARMACEUTICAL ASSOCIATION, San Antonio, June 20-23, 1973. Luther R. Parker, PO Box 4487, Austin 78701, Exec. Officer.

JULY

AMERICAN ACADEMY OF FAMILY PHYSICIANS, NEW MEXICO CHAPTER, 16th Annual Ruidoso Summer Clinic, Ruidoso, NM, July 16-19, 1973. Bob Reid, PO Box 456, Sunland Park, NM 88063, Exec. Sec.

FLYING PHYSICIANS ASSOCIATION, San Diego, July 22-27, 1973. Albert Carriere, 801 Green Bay Rd., Lake Bluff, Ill. 60044, Exec. Officer.

ROCKY MOUNTAIN CANCER CONFERENCE, Denver, July 13-14, 1973. F. C. Shmidt, 1764 Gilpin, Denver 80218, Exec. V.-Pres.

AUGUST

■ AMERICAN CANCER SOCIETY, TEXAS DIVISION, Dallas, Aug. 23-24, 1973. Curt W. Reimann, 5100 Ridge Oak, Austin 78731, Exec. V.-Pres.

SEPTEMBER

■ AMERICAN ACADEMY OF OPHTHALMOLOGY AND OTOLARYNGOLOGY, Dallas, Sept. 16-20, 1973. Dr. C. M. Kos, 15 Second St. SW, Rochester, Minn. 55901.

AMERICAN ASSOCIATION OF MEDICAL CLINICS, Los Angeles, Sept. 16-20, 1973. Dr. G. Stanley Custer, 630 S. Central Ave., Marshfield, Wisc. 54449, Acting Exec. Dir.

AMERICAN CANCER SOCIETY, Second National Conference on Cancer of the Colon and Rectum, Bal Harbour, Fla., Sept. 27-29, 1973. Dr. Sidney L. Arje, 219 E. 42nd St., New York 10017.

AMERICAN FRACTURE ASSOCIATION, Montreal, Sept. 5-9, 1973. Dr. H. W. Wellmerling, 600 Livingston Bldg., Bloomington, Ill. 62058, Exec. Officer.

AMERICAN ROENTGEN RAY SOCIETY, Montreal, Sept. 25-28, 1973. Dr. Ted F. Leigh, Emory University Clinic, Atlanta 30322, Exec. Sec.

INTERNATIONAL MEDICAL CONGRESS, Fourth International Conference on Birth Defects, Vienna, Austria, Sept. 2-8, 1973. Richard C. Gedney, 1275 Mamaroneck Ave., White Plains, NY 10605, Exec. Sec.

■ PANHANDLE DISTRICT MEDICAL SOCIETY, Lubbock, Sept. 15, 1973. Carlie Umphres, PO Box 3276, Amarillo 79106, Exec. Officer.

■ TEXAS PEDIATRIC SOCIETY, Austin, Sept. 1973. Dr. Pat A. Cato, 1015 E. 32nd St., Austin 78705, Sec.

OCTOBER

AMERICAN ACADEMY OF FAMILY PHYSICIANS, Denver, Oct. 1-4, 1973. Roger Tusken, Volker Blvd. at Brookside, Kansas City, Mo. 64112, Exec. Dir.

AMERICAN ACADEMY OF PHYSICAL MEDICINE AND REHABILITATION, Washington, DC, Oct. 21-26, 1973. Creston Herold, 30 N. Michigan Ave., Chicago 60602, Exec. Officer.

AMERICAN ASSOCIATION FOR LABORATORY ANIMAL SCIENCE, Bal Harbour, Fla., Oct. 1-5, 1973. Joseph J. Garvey, 2317 W. Jefferson, Suite 208, Joliet, Ill. 60435, Exec. Sec.

AMERICAN ASSOCIATION OF MEDICAL ASSISTANTS, Washington, DC, Oct. 23-27, 1973. Dene R. Murray, One E. Wacker, No. 1510, Chicago 60601, Exec. Dir.

AMERICAN BOARD OF FAMILY PRACTICE, Oct. 20-21, 1973. Dr. Nicholas J. Pisacano, University of Kentucky Medical Center, Annex No. 2, Rm. 229, Lexington 40506, Sec.

AMERICAN COLLEGE OF CHEST PHYSICIANS, Toronto, Ontario, Oct. 21-25, 1973. Dr. Alfred Soffer, 112 East Chestnut, Chicago 60611, Exec. Dir.

AMERICAN COLLEGE OF GASTROENTEROLOGY, Los Angeles, Oct. 21-27. Daniel Weiss, 299 Broadway, New York 10007, Exec. Sec.

AMERICAN COLLEGE OF SURGEONS, Chicago, Oct. 15-19, 1973. C. Rollins Hanlon, 55 E. Erie St., Chicago 60611, Dir.

AMERICAN CONGRESS OF REHABILITATION MEDICINE, Washington, DC, Oct. 21-26, 1973. Creston Herold, 30 N. Michigan Ave., Chicago 60602, Exec. Officer.

AMERICAN MEDICAL ASSOCIATION, 14th National Conference on Physicians and Schools, Chicago, Oct. 4-6, 1973. AMA, 535 N. Dearborn St., Chicago 60610.

AMERICAN SOCIETY OF ANESTHESIOLOGISTS, San Francisco, Oct. 7-11, 1973. John W. Andes, 515 Busse Highway, Park Ridge, Ill. 60068, Exec. Sec.

AMERICAN SOCIETY OF PLASTIC AND RECONSTRUCTIVE SURGEONS, Hollywood, Fla., Oct. 21-26, 1973. Dallas F. Whaley, 29 E. Madison, Suite 807, Chicago 60602, Exec. Dir.

ASSOCIATION OF LIFE INSURANCE MEDICAL DIRECTORS OF AMERICA, New York City, Oct. 14-17, 1973. Dr. Athur E. Brown, 501 Boylston St., Boston 02117, Sec.

CIVIL AVIATION MEDICAL ASSOCIATION, Mexico, Oct. 22-25, 1973. Dr. Luis A. Amezcuag, Ave. Progreso No. 186-101, Mexico 18, DF, Mex., Chrmn.

SOUTHERN PSYCHIATRIC ASSOCIATION, Miami, Oct. 6-9, 1973. Annette S. Boutwell, PO Box 10387, Raleigh, NC 27605, Exec. Sec.

■ TEXAS MEDICAL ASSOCIATION, Austin, Oct. 5-7, 1973. C. Lincoln Williston, 1801 N. Lamar Blvd., Austin 78701, Exec. Sec.

WORLD CONFERENCE ON THE HUMAN ENVIRONMENT, Yugoslavia, Oct. 23-26, 1973. Dr. Gerald D. Dorman, 10 Columbus Circle, New York 10019.

WORLD MEDICAL ASSOCIATION, Munich, Germany, Oct. 14-20, 1973. M. L. Natwick, 10 Columbus Circle, New York 10019, Exec. Sec.

NOVEMBER

AMERICAN ASSOCIATION OF BLOOD BANKS, Bal Harbour, Fla., Nov. 11-16, 1973. Lois J. James, 30 N. Michigan Ave., Chicago 60602, Cen. Office Mgr.

■ AMERICAN ASSOCIATION FOR CLINICAL IMMUNOLOGY AND ALLERGY, San Antonio, Nov. 29-Dec. 2, 1973. Dr. Robert J. Brennan, 3471 N. Federal Hwy., Ft. Lauderdale, Fla. 33306, Prog. Chrmn.

AMERICAN MEDICAL ASSOCIATION, Anaheim, Calif., Nov. 25-28, 1973. AMA, 535 N. Dearborn St., Chicago 60610.

INTERNATIONAL CONGRESS OF GYNECOLOGICAL LAPAROSCOPY, New Orleans, Nov. 17-20, 1973. Dr. Jordan M. Phillips, 11239 S. Lakewood Blvd., Downey, Calif. 90241.

■ TEXAS ACADEMY OF FAMILY PHYSICIANS, San Antonio, Nov. 5-7, 1973. Donald C. Jackson, 1905 N. Lamar Blvd., Austin 78705, Exec. Officer.

■ TEXAS DERMATOLOGICAL SOCIETY, San Antonio, Nov. 12-15, 1973. Dr. Eugene P. Schoch, Jr., 3A Medical Arts Sq., Austin 78705, Sec.

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Indications: Nonobstructed urinary tract infections (mainly cystitis, pyelitis, pyelonephritis) due to susceptible organisms. **Important Note: *In vitro* sensitivity tests not always reliable; must be coordinated with bacteriological and clinical response. Add aminobenzoic acid to follow-up culture media. Increasing frequency of resistant organisms limits usefulness of antibacterial agents, especially in chronic and recurrent urinary infections.** Maximum safe total sulfonamide blood level, 20 mg/100 ml; measure levels as variations may occur.

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Precautions: Use cautiously in patients with impaired renal or hepatic function, severe allergy or bronchial asthma. Hemolysis, frequently dose-related, may occur in glucose-6-phosphate dehydrogenase-deficient patients. Maintain adequate fluid intake to prevent crystalluria and stone formation.

Adverse Reactions: *Blood dyscrasias:* Agranulocytosis, aplastic anemia, thrombocytopenia, leukopenia, hemolytic anemia, purpura, hypoprothrombinemia and methemoglobinemia; *Allergic reactions:* Erythema multiforme (Stevens-Johnson syndrome), generalized skin eruptions, epidermal necrolysis, urticaria, serum sickness, pruritus, exfoliative dermatitis, anaphylactoid reactions, periorbital edema, conjunctival and scleral injection, photosensitization, arthralgia and allergic myocarditis; *Gastrointestinal reactions:* Nausea, emesis, abdominal pains, hepatitis, diarrhea, anorexia, pancreatitis and stomatitis; *C.N.S. reactions:* Headache, peripheral neuritis, mental depression, convulsions, ataxia, hallucinations, tinnitus, vertigo and insomnia; *Miscellaneous reactions:* Drug fever, chills and toxic nephrosis with oliguria and anuria. Periarteritis nodosa and L.E. phenomenon have occurred. Due to certain chemical similarities with some goitrogens, diuretics (acetazolamide, thiazides) and oral hypoglycemic agents, sulfonamides have caused rare instances of goiter production, diuresis and hypoglycemia as well as thyroid malignancies in rats following long-term administration. Cross-sensitivity with these agents may exist.

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Information for authors

Material for *Texas Medicine* may be sent to the Managing Editor, 1801 North Lamar Blvd., Austin 78701. It must be offered solely to this journal. Each paper is reviewed by a consultant specialist and an editorial board, and is accepted or rejected on the basis of its individual merit and the availability of other material.

Manuscripts should be typed double-spaced with ample margins on firm paper. Carbons are unacceptable, but the author should keep a copy.

The *title* should include the words most suitable for indexing the article in "Index Medicus," should stress the main point, and should be brief. Subtitles should not be connected grammatically with the main title.

The *author's names* and degrees should follow the title, and their mailing addresses should be listed at the end of the article.

The *text* should be narrative with complete sentences, *few abbreviations*, and logical subheading. For *spelling and usage* the editors follow "Dorland's Illustrated Medical Dictionary," 24th edition, and "Webster's Third New International Dictionary, Unabridged." *Quotations* must give credit to both author and source. A concise *introductory summary* is required.

Reference lists should contain in this order (1) author's last name, initials, (2) title of article or book, (3) name of journal, (4) volume and inclusive page numbers, written 33:156-160, (5) year. For books, the title should be followed by place of publication, name of publisher, and year.

Illustrations should be black and white drawings or positive photographs, with neat, uniform, fairly large lettering. A label pasted to the back of each illustration should indicate its number, top, author's name, and title of article in brief. *Legends* should be in complete sentences, numbered, and typed on a separate sheet. *Color illustrations* are authorized if they are of special value.

Tables should be typed on separate sheets. Column headings should show points of similarity; side headings, points of difference.

Permission should be obtained from the publishers and the authors for any previously published material (extensive textual matter, illustrations, tables) used. Short verbatim quotations in the text may be used without permission, but should be quoted exactly with the source credited in the bibliography. Copies of permission letters should be submitted with the manuscript.

All material is subject to *editing*, but authors receive typescripts to check before publication. Prompt return of typescripts to *Texas Medicine* office avoids delay in publication. After the article is sent to the printer, only minimal revision may be made.

Reprints are available directly from the printer at an established schedule of costs. Authors automatically receive order blanks when their articles are published.

Editorials should be prepared in the same general manner, and should be written in clear, concise language. They should be 300-500 words in length (about two to three pages typed with double spacing.)

Contributions to the news section should be sent to the Editorial Offices, 1801 N. Lamar Blvd., Austin 78701, by the 5th of the month preceding the month of publication.

PUBLICATION INFORMATION

Texas Medicine is published monthly by the Texas Medical Association.

Contributions, previously unpublished, are welcomed for review. News and other items should be sent to the Editorial Offices by the 5th of the month preceding the month of publication. All contributions are sent at the owner's risk.

Scientific Articles are reviewed by technical and specialist consultants and are selected for publication in Texas Medicine by the Scientific Publication Committee, which is appointed by the Board of Publication. Editorials and other articles are subject to review by officers of the Texas Medical Association, appropriate expert and technical consultants, and representatives of county medical societies when in their purview.

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Pinworm therapy is often a family affair

Contraindications: History of hypersensitivity to thiabendazole.
Warnings: If hypersensitivity reactions occur, drug should be discontinued immediately and not resumed. Rarely, erythema multiforme has been associated with thiabendazole therapy; in severe cases (Stevens-Johnson syndrome), fatalities have occurred. Because CNS side effects may occur quite frequently, activities requiring mental alertness should be avoided. Safe use in pregnancy or lactation has not been established.
Precautions: Ideally, supportive therapy is indicated for anemic, dehydrated, or malnourished patients prior to initiation of anthelmintic therapy. In presence of hepatic or renal dysfunction, patients should be carefully monitored.
Adverse Reactions: Most frequently encountered are anorexia, nausea, vomiting, and dizziness. Less frequently, diarrhea, epigastric distress, pruritus, weariness, drowsiness, giddiness, and headache have occurred. Rarely, tinnitus, hyperirritability, numbness, abnormal sensation in eyes, blurring of vision, xanthopsia; hypotension, collapse; enuresis; transient rise in cephalin flocculation and SGOT; perianal rash, cholestasis and parenchymal liver damage; hyperglycemia; transient leukopenia; malodor of the urine, crystalluria, hematuria; appearance of live Ascaris in the mouth and nose. Hypersensitivity reactions

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For more detailed information, consult your MSD representative or see full prescribing information. Merck Sharp & Dohme, Division of Merck & Co., Inc., West Point, Pa. 19486

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addendum

INDICATION | DOSAGE SCHEDULE

MINTEZOL® (Thiabendazole, MSD) has demonstrated effectiveness against a broad spectrum of nematode infections. Dosages are weight related. For your convenience, the information in the weight-dose chart below is included in the full prescribing information and in the 1973 edition of PDR.
The recommended maximum daily dose of MINTEZOL is 3 g (6 tablets).
MINTEZOL should be given after meals if possible. Dietary restriction, complementary medications, and cleansing enemas are not needed.
The usual dosage schedule for all conditions is two doses per day. The size of the dose is determined by the patient's weight.

Weight-dose chart:

WEIGHT (lb)	EACH DOSE (g)	TABLETS
25	0.25	½
50	0.5	1
75	0.75	1½
100	1.0	2
125	1.25	2½
150 & over	1.5	3

The regimen for each indication follows:

INDICATION	REGIMEN	COMMENTS
Pinworm disease	Two doses per day for 1 day. Repeat in 7 days. This regimen is designed to reduce the risk of reinfection.	If this is not practical, give 2 doses per day for 2 successive days.
Threadworm,* large roundworm,* hookworm,* and whipworm* disease	Two doses per day for 2 successive days.	A single dose of 20 mg/lb or 50 mg/kg may be employed as an alternative schedule, but a higher incidence of side effects should be expected.
Creeping eruption	Two doses per day for 2 successive days.	If active lesions are still present 2 days after completion of therapy, a second course is recommended.
Symptoms of trichinosis* during the invasive phase of the disease	Two doses per day for 2 to 4 successive days according to the response of the patient.	The optimal dosage for the treatment of trichinosis has not been established.

*Clinical experience with thiabendazole for treatment of each of these conditions in children weighing less than 30 lb has been limited.

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Antivert® (meclizine HCl) has been found useful in the management of vertigo associated with diseases affecting the vestibular system. It is available as Antivert (12.5 mg. meclizine HCl) and Antivert/25 (25 mg. meclizine HCl) scored tablets for convenience and flexibility of dosage. Antivert/25 (25 mg. meclizine HCl) Chewable Tablets are available for the management of nausea, vomiting, and dizziness associated with motion sickness.

*INDICATIONS. Based on a review of this drug by the National Academy of Sciences-National Research Council and/or other information, FDA has classified the indications as follows:

Effective: Management of nausea and vomiting and dizziness associated with motion sickness.

Possibly Effective: Management of vertigo associated with diseases affecting the vestibular system.

Final classification of the less than effective indications requires further investigation.

CONTRAINDICATIONS. Administration of Antivert during pregnancy or to women who may become pregnant is contraindicated in view of the teratogenic effect of the drug in rats.

The administration of meclizine to pregnant rats during the 12th-15th day of gestation has produced cleft palate in the offspring. Limited studies using doses of over 100 mg./kg./day in rabbits and 10 mg./kg./day in pigs and monkeys did not show cleft palate. Congeners of meclizine have caused cleft palate in species other than the rat.

Meclizine HCl is contraindicated in individuals who have shown a previous hypersensitivity to it.

WARNINGS. Since drowsiness may, on occasion, occur with use of this drug, patients should be warned of this possibility and cautioned against driving a car or operating dangerous machinery.

Usage in Children: Clinical studies establishing safety and effectiveness in children have not been done; therefore, usage is not recommended in the pediatric age group.

Usage in Pregnancy: See "Contraindications."

ADVERSE REACTIONS. Drowsiness, dry mouth and, on rare occasions, blurred vision have been reported.

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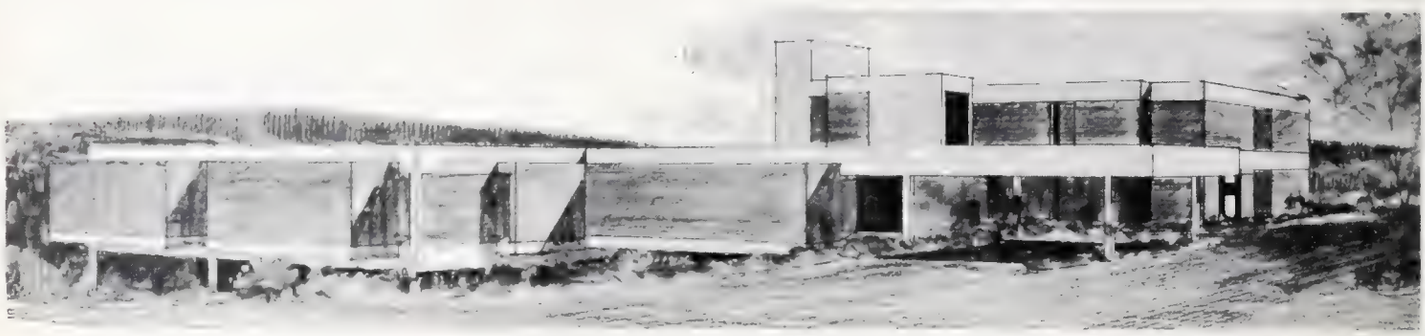

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CONTINUING EDUCATION COURSES

CARDIOLOGY: "Management of the Critically-Ill Cardiac Patient" is a program designed to review cardiovascular problems in critically-ill patients confronting the internist, cardiologist, and surgeon. Particular attention will be directed to the interaction of the lung, kidney, and the heart in the critically-ill patient. Presented by the American College of Cardiology, Methodist Hospital, and Baylor College of Medicine, the program will be presented April 4-6 at the Texas Medical Center in Houston. Much of the program will be in panel discussions using case presentations. Topics include "Advances in the Use of Procainamide and Lidocaine as Antiarrhythmic Agents," "Long Term Management of Patients With Severe Heart Disease," and "The Hypertensive Crisis." A registration fee of $120 is charged for members of the ACC, and $160 is the registration fee for nonmembers. Contact: Miss Mary Anne McInerny, Director, Department of Continuing Education Programs, American College of Cardiology, 9650 Rockville Pike, Bethesda, Md. 20014.

CARDIOLOGY: The Second Annual Cardio-Pulmonary Seminar, sponsored by the Permian Basin Chapter, Texas Academy of Family Practice, in conjunction with the American Heart Association, will be held April 6-7 at Indian Mountain Lodge, Davis Mountains State Park, Fort Davis, Tx. The seminar is approved for 7 prescribed hours of credit by the AAFP. For further information, contact Dr. Wm. Bart Pate, 202 North 2nd St., Alpine 78930.

CLINICAL PATHOLOGY AND CARDIOLOGY: The 13th Annual Seminar of the Houston Society of Clinical Pathologists will concern the cardiovascular patient and clinical pathology. The symposium will be held April 7 in Houston, and is supported by St. Luke's Episcopal Hospital and Texas Heart Institute. Speakers for the symposium are Dr. John B. Henry, professor of pathology and director, division of clinical pathology, State University Hospital, Syracuse, NY; Dr. S. Raymond Gambino, professor of pathology at Columbia University, and director of clinical chemistry, Columbia Presbyterian Medical Center, New York, NY; Dr. Robert I. Levy, chief, clinical service, National Heart and Lung Institute, National Institutes of Health, Bethesda, Md.; Dr. Leo P. Cawley, director of laboratories, Wesley Medical Center, Wichita, Kans.; Dr. Denton A. Cooley, surgeon-in-chief, Texas Heart Institute, Houston; and Dr. John D. Milam, associate director of laboratories at St. Luke's Episcopal Hospital, and professor of pathology at Baylor College of Medicine, Houston.

For registration information, write to Dr. John D. Milam, Seminar Chairman, Department of Pathology, St. Luke's Episcopal Hospital, Texas Medical Center, Houston 77025.

PEDIATRICS: The Children's Hospital Research and Education Foundation of the Santa Rosa Medical Center announces its 11th Annual Teaching Conference, to be held in conjunction with the Department of Pediatrics of UT Health Science Center at San Antonio. The program is scheduled for April 7 and 8, and is accredited for 8 prescribed hours by the AAFP.

Guest speakers will be Dr. Donald Altman, director, department of radiology, Variety Children's Hospital, Miami; Dr. Elliott F. Ellis, department of pediatric allergy, National Jewish Hospital and Research Center, Denver; and Dr. John G. Raffensperger, head, division of general surgery, Children's Memorial Hospital, Chicago. For more information, contact Dr. Howard A. Britton, Chairman, Department of Pediatrics, Santa Rosa Medical Center, PO Box 7330, Station A, San Antonio 78285.

GENETICS: A postgraduate course on medical genetics as applied to the individual practice of medicine is scheduled for April 14 at the Willis-Knighton Memorial Hospital in Shreveport, La. Sponsored by the Louisiana State University School of Medicine in Shreveport, the program has been organized by Richard C. Juberg, MD, PhD, Director of the Birth Defects Center at the school. Other faculty members and private physicians will also participate in the program which includes discussions of the common chromosomal abnormalities and their implications, the genetics laboratory, genetics of cancer, familiar factors in breast cancer, and genetic counseling. Advance registration before April 6 is necessary; fee for the course is $25. Contact: Mr. Robert R. Graves, LSU School of Medicine in Shreveport, PO Box 3932, Shreveport, La. 71130.

OPHTHALMOLOGY: The Department of Ophthalmology, UT Medical Branch at Galveston, will present its Seventh Annual Postgraduate Alumni Meeting on April 7. Dr. Herbert E. Kaufman, professor and chairman of ophthalmology, University of Florida College of Medicine, Gainesville, will be guest lecturer. Ophthalmologists and other physicians interested in attending the meeting should contact the Department of Ophthalmology, UT Medical Branch at Galveston, Galveston 77550.

OPHTHALMOLOGY: Sudden loss of vision, the eye and systemic disease, eye disease in children, differential diagnosis of the red eye, and glaucoma testing will be discussed during the symposium on Ophthalmology for Family Physicians, scheduled for April 14 at Houston's Hermann Hospital. The symposium is being presented by Texas Society for the Prevention of Blindness and the Houston Eye Fund, in cooperation with UT Health Science Center at Houston. The program has been approved by AAFP for 6 hours of credit. Contact: Joanne Allen, 3617 Fannin, Houston 77004.

STERILIZATION: The American Association of Planned Parenthood Physicians, in cooperation with Baylor College of Medicine and Planned Parenthood of Houston, will present a "Postgraduate Day on Male and Female Sterilization," April 11, in Houston. Speakers will discuss criteria of patient selection, the latest techniques in sterilization, immunological aspects, semen cryobanks, and other topics. Details may be obtained from Richard A. Ferguson, 3601 Fannin, Houston 77004, exec. dir.

MORE CONTINUING EDUCATION COURSES

MAY

Emergency Medical Care: A course for emergency room physicians and nurses will be sponsored by American College of Surgeons' Committee on Trauma and UT Health Science Center at Dallas. Entitled, "Treatment of the Seriously Injured or Ill in the Emergency Department," the course will include sessions on trauma, psychiatric problems, acute medical problems, pediatric problems, and obstetric-gynecological problems. May 23-25 are the dates for the course, which will take place in Dallas. Registration information is available from Trauma Division, American College of Surgeons, 55 E. Erie St., Chicago 60611.

Medical Therapeutics: A two-day postgraduate course on medical therapeutics is scheduled at the University of Oklahoma College of Medicine, May 18-19. The use and abuse of several major drug categories and important recent advances in medical therapy will be reviewed in the course. More detailed information is available from the Office of Continuing Medical Education for Physicians, University of Oklahoma College of Medicine, 800 NE 13th St., Oklahoma City 73104.

A Physiologic Approach to Clinical Cardiology. Sponsored by Texas Heart Institute, May 31-June 2, Houston. Fee: $25. Credit: 16 hours, AAFP. Contact: Dr. Robert J. Hall, Medical Director, Texas Heart Institute, One Bates Ave., Houston 77025.

Rheumatic Diseases: Clinical, metabolic, serologic, and immunologic aspects of the arthritides and connective tissue diseases will be reviewed in a course entitled, "The Rheumatic Diseases: Clinical and Immunological Aspects." The course will be presented by American College of Physicians, May 16-18, in Dallas. Serologic and immunologic data will be related to diagnosis and to mechanisms of inflammation and tissue injury, and advances in orthopedic surgery and rehabilitation will also be presented. Dr. Morris Ziff, Professor of Internal Medicine at UT Southwestern Medical School, 5323 Harry Hines Blvd., Dallas 75235, is director of the course.

Physical Medicine: Veterans Administration Hospital in Houston, with the cooperation of Baylor College of Medicine, will conduct an Intensive Review Course in Physical Medicine for physicians preparing for the Board examinations. The course is scheduled for May 22-June 1 and is open to VA and non-VA physicians. There is no tuition or registration fee. Additional information may be obtained by writing to: Chief, Rehabilitation Medicine, VA Hospital, 2002 Holcombe Blvd., Houston 77031.

JUNE

Recent Developments in the Diagnosis and Management of Renal Disease. Sponsored by UT Health Science Center at San Antonio, June 9-10, Kerrville. Fee: $50. Credit: 8 hours, AAFP and Category 1, AMA Phy. Recog. Award. Contact: Dr. Paul Cutler, Assistant Dean for Clinical Affairs, UT Health Science Center at San Antonio, 7703 Floyd Curl Dr., San Antonio 78284.

Hematology for the Family Physician. Sponsored by UT Health Science Center at San Antonio, June 23-24, San Antonio. Fee: $50. Credit: 12 hours, AAFP and Category 1, AMA Phy. Recog. Award. Contact: Dr. Paul Cutler, Associate Dean for Clinical Affairs, UT Health Science Center at San Antonio, 7703 Floyd Curl Dr., San Antonio 78284.

Problems of Patients with Clinical Heart Disease. Sponsored by American Heart Association, Texas Affiliate, Inc., and UT Health Science Center at Dallas, June 21-23, Dallas. Fee: $15, AHA members; $20, nonmembers. Credit: 8 prescribed hours, 12 elective hours, AAFP. Contact: Dale Stringfellow, Program Director, American Heart Association, Texas Affiliate, Inc., PO Box 9928, Austin 78766.

JULY

Physics: Courses in physics related to therapeutic radiology are being offered by UT Health Science Center at Houston, Graduate School of Biomedical Sciences and Division of Continuing Education; and UT M.D. Anderson Hospital and Tumor Institute at Houston. Three separate courses are offered, each integrally related and designed to be taken as a unit; however, the courses may be taken separately.

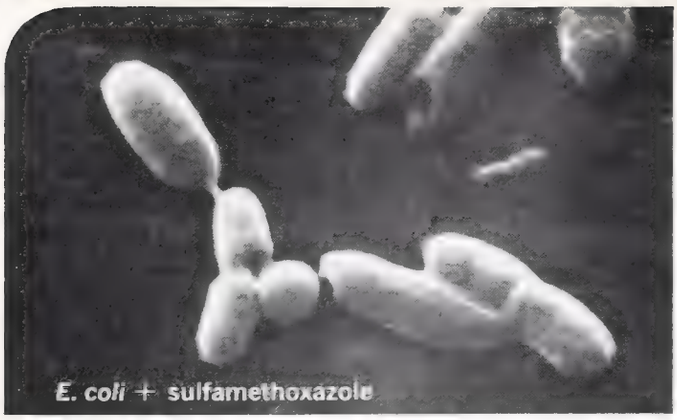
Principles, applications, and computer methods of external beam, interstitial, and intracavitary dosimetry will be presented as follows: Principles, July 2-13; Applications, July 16-27; and Computer Methods, July 30-Aug. 3. Tuition fee for each course is $200. Deadline for application is May 1. Contact: Dr. Grant Taylor, Dean, Division of Continuing Education, UT Health Science Center at Houston, PO Box 20367, Houston 77025.

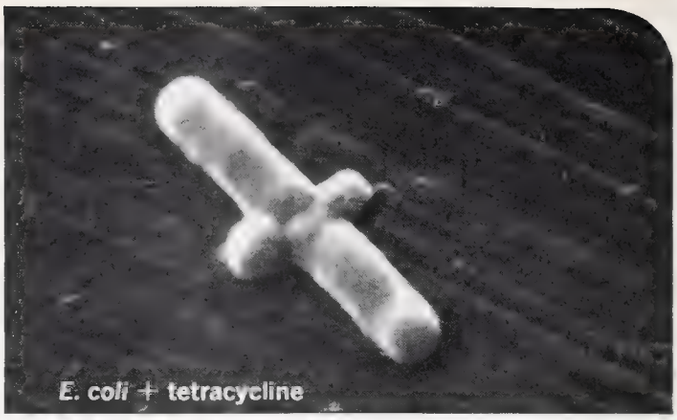
Bi-Monthly Clinical Conference in Ophthalmology. Sponsored by UT Health Science Center at Dallas, July 18, Dallas. Contact: Dr. John S. Chapman, Assistant Dean for Postgraduate Education, UT Health Science Center at Dallas, 5323 Harry Hines Blvd., Dallas 75235.

Encounter under the Scanning Electron Microscope

SEM reveals changes in *E. coli* exposed to antibacterial agents

The Scanning Electron Microscope (SEM) is the only instrument which gives 3-dimensional views on a microscopic level. This permits the surface morphology of microorganisms to be observed in detailed perspective. Changes in surface morphology of *E. coli* exposed to various antimicrobial agents are seen on the following page. An SEM photomicrograph of normal control *E. coli* appears above.





Different modes of antibacterial action — Similar changes in morphology

As part of a series of experiments,[1-3] strains of *E. coli* proven susceptible to each antibacterial agent were exposed to 1 MIC of the respective antibacterials for a three-hour period. Included were cell-wall-active drugs, ampicillin and cephalothin; a drug interfering with intracellular protein synthesis, tetracycline; and a chemical agent which acts by interference with para-aminobenzoic acid, sulfamethoxazole.

As seen above, elongation of the bacilli, mid-cell defects and spheroplast-like forms may be appreciated with the SEM technique. These changes in bacterial morphology were similar... regardless of the antibacterial agent used and irrespective of its mechanism of action.

"At present, the significance of these observations in clinical infection must be considered with caution, but it is hoped that these data will stimulate a reevaluation of present concepts of the nature and role of morphological variants of bacteria exposed to a variety of antibacterial factors."[2]

It should be noted that no clinical conclusions can be drawn from this study, as it is not always possible to extrapolate *in vitro* data to humans.

References: 1. Klainer, A. S.; Fass, R. J., and Perkins, R. L.: Scientific Exhibit presented at the 25th American Medical Association Clinical Convention, New Orleans, La., Nov. 28-Dec. 1, 1971. **2.** Klainer, A. S., and Perkins, R. L.: *Antimicrob. Agents Chemother., 1*:164, 1972. **3.** Klainer, A. S.: Data on file, Hoffmann-La Roche Inc., Nutley, N.J.

Before prescribing, please consult complete product information, a summary of which follows:

Indications: Acute, recurrent or chronic nonobstructed urinary tract infections (primarily pyelonephritis, pyelitis and cystitis) due to susceptible organisms. **Note: Carefully coordinate *in vitro* sulfonamide sensitivity tests with bacteriologic and clinical response; add aminobenzoic acid to follow-up culture media. The increasing frequency of resistant organisms limits the usefulness of antibacterials including sulfonamides, especially in chronic or recurrent urinary tract infections.** Measure sulfonamide blood levels as variations may occur; 20 mg/100 ml should be maximum total level.

Contraindications: Sulfonamide hypersensitivity; pregnancy at term and during nursing period; infants less than two months of age.

Warnings: Safety during pregnancy has not been established. Sulfonamides should not be used for group A beta-hemolytic streptococcal infections and will not eradicate or prevent sequelae (rheumatic fever, glomerulonephritis) of such infections. Deaths from hypersensitivity reactions, agranulocytosis, aplastic anemia and other blood dyscrasias have been reported and early clinical signs (sore throat, fever, pallor, purpura or jaundice) may indicate serious blood disorders. Frequent CBC and urinalysis with microscopic examination are recommended during sulfonamide therapy. Insufficient data on children under six with chronic renal disease.

Precautions: Use cautiously in patients with impaired renal or hepatic function, severe allergy, bronchial asthma; in glucose-6-phosphate dehydrogenase-deficient individuals in whom dose-related hemolysis may occur. Maintain adequate fluid intake to prevent crystalluria and stone formation.

Adverse Reactions: *Blood dyscrasias* (agranulocytosis,

Encounter in Clinical Practice

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It is not uncommon for the elderly and the debilitated to develop chronic and/or recurrent nonobstructed urinary tract infections such as pyelonephritis and cystitis. Such cases often respond satisfactorily to Gantanol. The increasing frequency of resistant organisms is a limitation of usefulness of antibacterial agents including sulfonamides, especially in chronic or recurrent u.t.i.

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Either dosage form—the Tablets or the pleasant-tasting, cherry-flavored Suspension—can provide the dependable antibacterial activity necessary to control susceptible nonobstructed cystitis and pyelonephritis. Symptomatic improvement may usually be expected in 24 to 48 hours. The usual precautions with sulfonamide therapy should be observed, including adequate fluid intake. Gantanol (sulfamethoxazole) is generally well tolerated with relative freedom from complications; the most common side effects are nausea, vomiting and diarrhea. Frequent c.b.c.'s and urinalyses with microscopic examination are recommended.

In nonobstructed cystitis and pyelonephritis due to susceptible organisms

Gantanol®
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Basic Therapy

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aplastic anemia, thrombocytopenia, leukopenia, hemolytic anemia, purpura, hypoprothrombinemia and methemoglobinemia); *allergic reactions* (erythema multiforme, skin eruptions, epidermal necrolysis, urticaria, serum sickness, pruritus, exfoliative dermatitis, anaphylactoid reactions, periorbital edema, conjunctival and scleral injection, photosensitization, arthralgia and allergic myocarditis); *gastrointestinal reactions* (nausea, emesis, abdominal pains, hepatitis, diarrhea, anorexia, pancreatitis and stomatitis); *CNS reactions* (headache, peripheral neuritis, mental depression, convulsions, ataxia, hallucinations, tinnitus, vertigo and insomnia); *miscellaneous reactions* (drug fever, chills, toxic nephrosis with oliguria and anuria, periarteritis nodosa and L.E. phenomenon). Due to certain chemical similarities with some goitrogens, diuretics (acetazolamide, thiazides) and oral hypoglycemic agents, sulfonamides have caused rare instances of goiter production, diuresis and hypoglycemia as well as thyroid malignancies in rats following long-term administration. Cross-sensitivity with these agents may exist.

Dosage: Systemic sulfonamides are contraindicated in infants under 2 months of age (except adjunctively with pyrimethamine in congenital toxoplasmosis).

Usual adult dosage: 2 Gm (4 tabs or teasp.) initially, then 1 Gm *b.i.d.* or *t.i.d.* depending on severity of infection.

Usual child's dosage: 0.5 Gm (1 tab or teasp.)/20 lbs of body weight initially, then 0.25 Gm/20 lbs *b.i.d.* Maximum dose should not exceed 75 mg/kg/24 hrs.

Supplied: Tablets, 0.5 Gm sulfamethoxazole; Suspension, 0.5 Gm sulfamethoxazole/teaspoonful.

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CONTRAINDICATIONS: Hypersensitivity to any of the tetracyclines.

WARNINGS: Tetracycline usage during tooth development (last half of pregnancy to eight years) may cause permanent tooth discoloration (yellow-gray-brown), which is more common during long-term use but has occurred after repeated short-term courses. Enamel hypoplasia has also been reported. **Tetracyclines should not be used in this age group unless other drugs are not likely to be effective or are contraindicated.**

Usage in pregnancy. (See above **WARNINGS** about use during tooth development.)

Animal studies indicate that tetracyclines cross the placenta and can be toxic to the developing fetus (often related to retardation of skeletal development). Embryotoxicity has also been noted in animals treated early in pregnancy.

Usage in newborns, infants, and children. (See above **WARNINGS** about use during tooth development.)

All tetracyclines form a stable calcium complex in any bone-forming tissue. A decrease in fibula growth rate observed in prematures given oral tetracycline 25 mg/kg every 6 hours was reversible when drug was discontinued

Tetracyclines are present in milk of lactating women taking tetracyclines.

To avoid excess systemic accumulation and liver toxicity in patients with impaired renal function, reduce usual total dosage and, if therapy is prolonged, consider serum level determinations of drug.The antianabolic action of tetracyclines may increase BUN. While not a problem in normal renal function, in patients with significantly impaired function, higher tetracycline serum levels may lead to azotemia, hyperphosphatemia, and acidosis.

Photosensitivity manifested by exaggerated sunburn reaction has occurred with tetracyclines. Patients apt to be exposed to direct sunlight or ultraviolet light should be so advised, and treatment should be discontinued at first evidence of skin erythema.

PRECAUTIONS: If superinfection occurs due to overgrowth of nonsusceptible organisms, including fungi, discontinue antibiotic and start appropriate therapy

In venereal diseases, when coexistent syphilis is suspected, perform darkfield examination before therapy, and serologically test for syphilis monthly for at least four months.

Tetracyclines have been shown to depress plasma prothrombin activity; patients on anticoagulant therapy may require downward adjustment of their anticoagulant dosage.

In long-term therapy, perform periodic organ system evaluations (including blood, renal, hepatic).

Treat all Group A beta-hemolytic streptococcal infections for at least 10 days.

Since bacteriostatic drugs may interfere with the bactericidal action of penicillin, avoid giving tetracycline with penicillin.

ADVERSE REACTIONS: Gastrointestinal (oral and parenteral forms): anorexia, nausea, vomiting, diarrhea, glossitis, dysphagia, enterocolitis inflammatory lesions (with monilial overgrowth) in the anogenital region.

Skin: maculopapular and erythematous rashes; exfoliative dermatitis (uncommon). Photosensitivity is discussed above (See **WARNINGS**)

Renal toxicity: rise in BUN, apparently dose related (See **WARNINGS**).

Hypersensitivity: urticaria, angioneurotic edema, anaphylaxis, anaphylactoid purpura, pericarditis, exacerbation of systemic lupus erythematosus.

Bulging fontanels, reported in young infants after full therapeutic dosage, have disappeared rapidly when drug was discontinued

Blood: hemolytic anemia, thrombocytopenia, neutropenia, eosinophilia.

Over prolonged periods, tetracyclines have been reported to produce brown-black microscopic discoloration of thyroid glands; no abnormalities of thyroid function studies are known to occur

USUAL DOSAGE: Adults—600 mg daily, divided into two or four equally spaced doses. More severe infections: an initial dose of 300 mg followed by 150 mg every six hours or 300 mg every 12 hours. Gonorrhea: In uncomplicated gonorrhea, when penicillin is contraindicated, 'Rondomycin' (methacycline HCl) may be used for treating both males and females in the following clinical dosage schedule: 900 mg initially, followed by 300 mg q.i.d. for a total of 5.4 grams

For treatment of syphilis, when penicillin is contraindicated, a total of 18 to 24 grams of 'Rondomycin' (methacycline HCl) in equally divided doses over a period of 10-15 days should be given. Close follow-up, including laboratory tests, is recommended.

Eaton Agent pneumonia: 900 mg daily for six days

Children—3 to 6 mg/lb/day divided into two to four equally spaced doses

Therapy should be continued for at least 24-48 hours after symptoms and fever have subsided

Concomitant therapy: Antacids containing aluminum, calcium or magnesium impair absorption and are contraindicated. Food and some dairy products also interfere. Give drug one hour before or two hours after meals. Pediatric oral dosage forms should not be given with milk formulas and should be given at least one hour prior to feeding.

In patients with renal impairment (see **WARNINGS**), total dosage should be decreased by reducing recommended individual doses or by extending time intervals between doses

In streptococcal infections, a therapeutic dose should be given for at least 10 days.

SUPPLIED: 'Rondomycin' (methacycline HCl): 150 mg and 300 mg capsules; syrup containing 75 mg/5 cc methacycline HCl.

Before prescribing, consult package circular or latest PDR information.

Rev. 12/71

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A critical look at physical education

Melvin L. Thornton, MD

The purpose of this article is not to condemn entirely the physical education programs in the United States, nor is it a specific indictment of any particular system. Rather, it is to examine some of the basic principles, relate a few of our own experiences, and project several objectives that we should logically hold for meaningful programs for the youth of our country.

Following a provocative article in the *U.S. News and World Report* in 1957, in which the fitness of our youth was seriously questioned, there has been a renewed interest in physical fitness programs. Investigators began to take a closer look at the condition of our youth. Although Adams reported little difference between California and Swedish children, others certainly have shown that, in general, European children are more physicallly fit than children in the United States. At the time Adams did his study on California children, there was a good physical education program in their schools. In fact, in his studies of Lackland AFB recruits, Cooper found that the California boys were in much better physical condition. At the end of our training program, which will be described in more detail later, the girls tested still did not have as high maximal oxygen consumption levels as one group of Norwegian girls or a group of Swedish girls who were untrained.

For many years, there was a lack of agreement on methods for measuring fitness. It is now well accepted that oxygen consumption (the ability to take in, transport, and utilize oxygen for muscular work) is the best measure of physical fitness. Since it is difficult, expensive, and time-consuming to do oxygen consumption studies, attempts were made to find a field test that would correlate with oxygen consumption. Cooper has found good correlation for male recruits with his 12-minute walk-run test.

So in 1969, Dr. Cooper and I began doing 12-minute walk-runs, 600-yard runs, and as many treadmill studies as possible on a group of 6-12-year-old boys and girls in YMCA day camps. As will be shown later, there was rather low correlation of oxygen consumption with the 12-minute walk-run, but what we did come to realize was that preadolescent children have rather high oxygen consumption. This was also confirmed by Brown in his studies of young girls before they were trained in his cross-country running program. It seemed obvious to us that youngsters stay active and in motion enough to have a good training effect; however when they reach puberty, they become more sedentary and, in the case of girls, put on a great deal more fat and are not easily motivated to exercise regularly.

At the same time we were pondering the poor state of fitness in our youth, some other rather startling facts came to our attention. The rate of coronary heart disease in the 35-44-year-old males in this country is about four times as high as in Austria, and some four-and-one-half times higher than in Sweden. In the United States, statistical analysis has become the name of the game, and unfortunately we rank first in the incidence of cardiovascular disease. Adult males in 26 countries have a longer life expectancy than we do. A North American male has one chance in five of having clinical coronary heart disease before age 60 and a one in four chance of succumbing during the first three hours of the first attack.

Strong and McGill showed that most aortas exhibit intimal fatty streaks (soft lesions) during the first ten years, and all

after the first decade. Although these streaks may be reversible, they found that fibrous placques (hard lesions) begin to occur in the 20-29 age group, and in the 30-39 age group approximately one-half of the cases show fibrous placques. These were nonreversible lesions.

This means that, as Holman indicated, atherosclerotic cardiovascular disease is a pediatric disease. Efforts to control it must be aimed at the pediatric age group since there is still a chance of reversing the disease process during this time.

It should not be inferred that the high incidence of coronary heart disease is due only to poor physical condition. The Atherosclerosis Study Group identified several risk factors such as habitual diet that is high in saturated fat-cholesterol calories, elevated blood lipids, hypertension, cigarette smoking, hyperglycemia, obesity, sedentary living, psychosocial tensions, and family history of premature atherosclerotic heart disease. Certainly diet is probably the most important risk factor, but well-developed endurance exercise programs may affect some of the other risk factors. For example, some studies of adults have shown a decrease in serum lipids following endurance exercise. Other studies have shown improvement in hypertension on such programs, and other studies coupled with diets have shown a decrease in adiposity. Habits of exercise certainly help to offset sedentary living, and for those of you who have maintained your own endurance programs, you know how they help relieve psychosocial tensions.

Although hard data to show that these factors do, in fact, decrease the incidence of coronary heart disease are lacking, it does seem reasonable that endurance exercise programs may help reduce this alarming epidemic. Can we afford to wait? If the "soft lesions" can be reversed only up to 18 or 19 years of age, shouldn't we start now?

As was mentioned before, the maximal oxygen consumption values in children prior to puberty are high—in the 40-50 ml/kg body weight range. Compare this to a recent study of ours in which the maximum oxygen consumption levels in the 15-16-year-old girls prior to an exercise program were 33 ml/kg body weight. Others have found even lower levels in college-age girls. These are girls who have been involved in our regular physical education program.

In Bulletin 615 of the Texas Education Agency, the minimal standard of a two-year physical education program for high school students is set. In reality, most schools require three years instead of two; however, in some schools one-half year credit is given for a health course. Almost everywhere in this state, credit may be given for being a member of the marching band or pep squad, for being in ROTC training, or for vocation programs. The amount of endurance exercise from the above programs is probably negligible.

If one of the major objectives of physical education programs is to promote cardiopulmonary fitness, is this being accomplished? Certainly the natural athlete is probably involved in an adequate program. Schools that emphasize tennis, swimming, and track are undoubtedly producing some physically fit students, but these schools are not in the majority; even in those schools which do have such programs, the number of students participating is small.

The TEA Bulletin 625, "Suggestions for Planning the Secondary School Physical Education Program," places a great deal of stress on developing motor skills and very little on endurance running. The longest distance in the AAHPER test is

600 yards, yet many eight-year-old children can run more than 1.5 miles in 12 minutes. There is no quarrel with developing motor skills, but when these skills are developed at the expense of endurance training, there is reason to question the objectives of our programs. Do we wish to produce skilled athletes, or do we wish to promote cardiopulmonary fitness?

Many schools throughout the country have started running programs, and, at least in field testing, have shown remarkable improvement in fitness. In the Orangeview Junior High Study, boys were trained on a one-mile run per day. Only 33% could run 1.5 miles or more in 12 minutes at the beginning of the year, but by the end of the year, 90.3% were able to run 1.5 miles or more. Two years ago at Robert E. Lee High School in San Antonio, 96 girls ran five to eight minutes per day, four or five days a week for six weeks. At the beginning, only 10.5% could run 1.25 miles or more in 12 minutes, but at the end 48.8% could exceed 1.25 miles. In a longer training period at Roosevelt High School in San Antonio, only 4% could exceed 1.25 miles in 12 minutes at the beginning of training, but after six months, 88% could exceed that distance (Fig 1). Obviously children can be conditioned with little expenditure of time. If there is a rise in their maximal oxygen consumption, we can assume that we are improving cardiopulmonary fitness.

In an effort to prove this in the laboratory, a study was undertaken, in conjunction with Brooks Aerospace Medicine, and at Roosevelt High School in San Antonio's Northeast Independent School District. The results of this study are in the process of being published.

Of the 50 girls (15-16 years of age), 25 were randomly assigned to the exercise group and 25 to the control group. During a ten-week period, the exercise group ran 12 minutes per day, five days a week. The control group participated in the 'regular' physical education class which performed modern dance routines and practiced archery.

At the beginning and end, treadmill tests, a 12-minute run/walk test, and a 600-yard run were given to both groups.

As you can see (Fig 2) in the 12-minute run, of the control group, there was essentially no change during the ten weeks, whereas in the exercise group of which only 20% could run 1.25 miles or more at the beginning of the program, 68% could exceed that distance at the end (Fig 3).

All of the girls were tested on the treadmill using a modification of the Bruce multistage test in which both grade and speed were increased every three minutes, but two-minute rest periods were inserted between stages. For all girls, maximal workloads for oxygen consumption, minute ventilation, and heart rate averaged 2.06 liters/minute, 82.2 liters/minute, and 202 beats/minute, respectively, so there was no question of maximal effort. With the exception of the heart rate which was higher, these data are very nearly the same as reported in the literature for untrained, nonathletic girls of this age group in this country. In the exercise group, retesting demonstrated improvements in the maximum oxygen consumption of 14.5% (Figs 4 and 5) and minute ventilation 15.4% (Fig 6). In contrast, the control group showed small, insignificant increases in both of these parameters.

Correlations with the 12-minute run/walk test (Fig 7) were lower than we had hoped and were in no way comparable to those obtained by other investigators who used boys as subjects. The 600-yard run,

Miles	Oct, 1970 Before Training*	May, 1971 After Training*
1.50	0	12
1.25-1.49	4	76
1.00-1.24	84	12
.75-.99	12	0
< .75	0	0

*Percentage of 25 girls in each distance group for the 12-minute run-walk test.

1. Aerobics program, Roosevelt High School, San Antonio, Texas.

Miles	Sept, 1971 Before Training*	Dec, 1971 After Training*
1.50	0	0
1.25-1.49	13	17
1.00-1.24	70	70
.75-.99	17	13
< .75	0	0

*Percentage of 23 girls (control) in each distance group for the 12-minute run-walk test.

2. Aerobics program, Roosevelt High School, San Antonio, Texas.

Miles	Sept, 1971 Before Training*	Dec, 1971 After Training*
1.50	0	16
1.25-1.49	20	52
1.00-1.24	80	32
.75-.99	0	0
< .75	0	0

*Percentage of 25 girls (experimental) in each distance group for the 12-minute run-walk test.

3. Aerobics program, Roosevelt High School, San Antonio, Texas.

although also low, correlated about as well. This failure may be explained by dissimilar motivational factors, lesser competitive spirit of the girls for the field tests, or possibly because of calculations of oxygen consumption on kilogram/body weight and not lean mass.

It is true that our study represented only one age group of girls in the physical education class of one high school, and more studies are certainly necessary. It would be interesting to have all age groups represented or to conduct a longitudinal study to determine at what point in life children become deconditioned (what age for boys and what age for girls) and also whether a daily endurance exercise could affect this. It would also be helpful to know how endurance exercise programs affect the serum lipids. Finally, the real test would be long-term follow-up studies to see how diet and/or endurance exercise programs will affect the incidence of atherosclerotic cardiovascular disease.

Admittedly this will take years to accomplish. Can we afford to wait another generation before we start to reduce the physiological percussions of atherosclerotic cardiovascular disease? Is not the evidence good enough to dictate immediate action?

Summary

1. Prior to puberty, children in this country are in adequate physical condition as judged by their maximal oxygen consumption values. Then, most become deconditioned.

2. The incidence of coronary heart disease is extremely high in this country and there is evidence to show that this begins during childhood. While low cholesterol diet is considered to be the most important risk factor in the disease, there is evidence

that endurance exercise may affect other risk factors such as serum lipids, hypertension, psychological pressures, and obesity.

3. There is reason to believe that the present physical education programs may not be contributing to the cardiopulmonary fitness of the individuals.

4. It has been shown that a 12-minute endurance exercise four or five days a week can increase oxygen consumption by 15% in six to ten weeks.

5. It is suggested that all students should participate in endurance exercise programs throughout each year. It is postulated that such programs, along with low cholesterol diets, may show a reversal of the increased incidence of atherosclerotic cardiovascular disease.

6. Habits of exercise must be initiated at an early age to have any chance of becoming a permanent life pattern.

References

1. Is American youth physically fit? US News and World Report, 43:66, 1957.

2. Adams FH, Linde LM, Miyake H: The physical working capacity of normal school children. I. California. Pediatrics 28:55-64, 1961.

3. Adams FH, Bengtsson E, Berven H, et al: The physical working capacity of normal school children. II. Swedish city and country. Pediatrics 28:243-257, 1961.

4. Cooper K: Flying status insurance aerospace safety. 22:8, 1966.

5. Thornton M, Sinclair R, Sears G, et al: Evaluation of physical fitness program for teenage girls. Unpublished data.

6. Astrand PO: Experimental studies of physical working capacity in relation to sex and age. Copenhagen, Munksgaard, 1952.

	Before Training	After Training	
Control N = 23	33.8	35.8	(P < .025)
Experimental N = 25	35.8	41.0	(P < .001)
		Interaction	(P < .01)

4. Maximal oxygen consumption, ml/kg/minute.

	Before Training	After Training	
Control N = 23	1.46	1.44	(NS)
Experimental N = 25	1.44	1.55	(P < .005)

5. Average oxygen uptake, liters/minute at hr = 170.

	Before Training	After Training	
Control N = 23	80.6	84.0	(NS)
Experimental N = 25	83.3	95.6	(P < .001)
		Interaction	(P < .005)

6. Minute ventilation, liters/minute.

	Before Training		After Training	
	Control	Experimental	Control	Experimental
Ventilation (liters/minute)	.72	.66	.67	.51
Heart rate	.23	.36	.23	.01
600-yd run	−.77	−.66	−.64	−.62
12-minute run	.74	.59	.53	.74

7. Correlations of maximal oxygen consumption (ml/kg/minute) with four variables.

7. Shephard RJ, Allen C, Benade AJ, et al: The maximum oxygen intake. An international reference standard of cardiorespiratory fitness. Bull WHO 38:757-764, 1968.

8. Cooper H: A means of assessing maximal oxygen intake. Correlation between field and treadmill testing. JAMA 203-201-204, 1968.

9. Wilmore JH, Sigerseth PO: Physical work capacity of young girls, 7-13 years of age. J Appl Physiol 22:923-928, 1967.

10. Taylor HL, Wang Y, Rowell L, et al: The standardization and interpretation of submaximal and maximal tests of working capacity. Pediatrics 32:Suppl 703-722, 1963.

11. Balke B: A simple field test for the assessment of physiological fitness. CARI report, Oklahoma city, Civil Aeromedical Research Institute, Federal Aviation Agency, 1963.

12. Cooper K, Thornton M: Comparison of oxygen consumption with performances of 12-minute run-walk test in children. Unpublished data.

13. Brown CH: Long distance running for girls and women. Presented at the American College of Sports Medicine meeting, 1969.

14. Brown CH, Harrower JR, Deiter MF: The effects of cross-country running on pre-adolescent girls. Med Sci Sports 4:1-5, 1972.

15. Stamler J, et al: Primary prevention of atherosclerotic diseases. Circulation 42:A55-A91, 1970.

16. Strong JP, McGill HC, Jr: The pediatric aspects of atherosclerosis. J Atheroscler Res 9:251-265, 1969.

17. Strong JP, McGill HC, Jr: The natural history of aortic atherosclerosis: relationship to race, sex, and coronary lesions in New Orleans. Exp Molec Path 2:Suppl 1:15-27, 1963.

18. Holman RL: Atherosclerosis—a pediatric nutrition problem? Amer J Clin Nutr 9:565-569, 1961.

19. Whipp BJ, Ruff WK: The effect of caloric restriction and physical training on the responses of obese adolescents to graded exercise. 2:146-153, 1971.

20. Texas Education Agency, Bull 615, Austin.

21. Suggestions for Planning the Secondary School Physical Education Program. Austin, Texas Education Agency, Bull 625, 1963.

22. Youth Physical Fitness. Washington, DC, US Government Printing Office, 1961.

23. Orangeview Junior High School Aerobics Program, 1969.

24. Bruce RA: Manual of exercise testing. University of Washington School of Medicine, Seattle, Washington, 1970. Unpublished data.

25. McDonough JR, Bruce RA: Maximal exercise testing in assessing cardiovascular function. J S Carolina Med Ass, 1970.

26. Doolittle TL, Bigbee R: The twelve-minute run-walk: a test of cardiorespiratory fitness of adolescent boys. Res Quart Amer Ass Health Phys Educ 39:491-495, 1968.

27. Falls HB, Ismail AH, MacLeod DF: Estimation of maximum oxygen uptake in adults from AAHPER youth fitness methods. J Appl Physiol 20:509-13, 1965.

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Training, conditioning & care of athletes

Robert H. Gunn

Athletic training as we know it today was virtually unknown in the late 1930s and early 1940s. There probably were less than a dozen men in this country with any degree of competency in the field. Few were educated past the secondary school level; most were "massage men" or trainers of prize fighters.

During World War II a new breed of "conditioners" or "trainers" came into being. This was brought on by the need for accelerated conditioning of young men in the armed forces preflight programs. These men not only conducted organized programs of physical fitness, they also worked with the physicians and surgeons in the care and treatment of injuries sustained by the young cadets taking part in these crash programs. This handful of "trainers" were the true fathers of modern athletic training.

In 1950 the National Athletic Trainers Association was formed; it had four objectives: (1) to advance, encourage, and improve the athletic training profession in all of its phases, and to promote a better working understanding among those persons interested in the problems of athletic training; (2) to develop further the ability of each of its members; (3) to better serve the common interest of its members by providing a means for a free exchange of ideas within the profession; and (4) to enable the members to become better acquainted personally through casual good fellowship.

From this relatively uncomplicated beginning has grown an organization in excess of 2,000 members, of which over 800 are certified trainers. To be certified the trainer must have fulfilled the standards of competence set forth by the National Athletic Trainers Association and have passed a rigid and valid examination. This written, clinical, and oral examination is the product of many years' work with the professional examination services.

Our standards for an approved curriculum of study leading to the examination are high. We had tremendous help and guidance from outstanding educators and medical doctors throughout the United States. In June, 1967, the AMA approved and commended the progress of the NATA in its work on preparation and education of athletic trainers, and recommended that state and local medical societies help advance the professional goals of the NATA through appropriate liaison activities.

In 1971, the Texas Legislature passed a law, the first of its kind in the United States; licensing "athletic trainers" to practice in the state, and identifying training as a lawful profession with set qualifications and standards which *must* be met in order to practice. There has been some misinformation and misunderstanding concerning this licensure bill. Basically it was brought into being because athletic trainers now have the educational and practical backgrounds to qualify for licensing.

Our intent was to insure the competency and qualification of the people hired to practice the prevention and care of injuries to our young athletes. Our trainers work with, and under the supervision of, the physicians in the state and together form an effective team. This relationship can only be effective if *both* parties are qualified.

We believe that the greatest area of need for competent athletic trainers is in the secondary schools. Most of our colleges, universities, and professional teams have certified and licensed athletic trainers in their staffs but few Texas high schools employ an athletic trainer. It has been said that they cannot afford this *luxury*. I find

this hard to believe. A certified and licensed trainer is qualified to teach health and physical education, biology, and/or other subjects. He is trained and skilled in the prevention and care of athletic injuries, in advanced first aid, and other subjects appropriate to proper care of our young people. It seems to me that he would be a *necessity* rather than a luxury. Rehabilitation of an injured athlete at the high school level is as important as at the university level. The youngster in secondary school is in an important period of growth and maturation and needs careful, intelligent supervision and guidance to prevent later problems and crippling effects from injuries suffered during adolescence.

The physician does not have time for this work, and coaches and parents rarely have both the time and knowledge to provide this service. Competent trainers can provide the persistent care and meticulous attention to the physician's treatment prescription, thus minimizing future disabilities.

Immediate attention to all injuries, even the seemingly minor ones, is a job for a person thoroughly familiar with all facets of sports medicine and first aid, capable of making on-the-field functional tests and evaluations, and able to provide accurate information to the physician. He must be competent to prevent further injury to an already insulted part.

It makes no sense for a high school to hire numerous coaches, spend thousands of dollars on colorful uniforms, build an impressive stadium, and then entrust the daily care and treatment of its athletes to an assistant coach, a student trainer, or a student manager. Although they may be willing and conscientious workers, the responsibility placed on them is too great and is an unfair burden.

Changes are needed and are slowly taking place. We now have a law which identifies athletic trainers as people specifically educated and qualified to perform their paramedical tasks. No longer may anyone call himself, or practice as, an athletic trainer unless he is qualified and licensed as such. The physicians can help make this law work, for its strength lies in your cooperation and help, and its weakness lies in your ignoring our need.

Trainers basically have a three-phase responsibility. We are concerned with prevention of injury, emergency care of injury, and postinjury rehabilitation.

Prevention

The first important aspect of prevention is to be reasonably certain that the athlete is physically sound before he is allowed to participate in vigorous sports. This is within the physician's realm, but the trainer can be of help. The quality and thoroughness of the preparticipation physical examination in high schools, colleges, and professional teams could be upgraded. The Oilers have electrocardiograms, blood work, chest films, ophthalmological and dental examinations, urinalysis, an orthopedic examination, and Sickledex test in addition to general physical examination. If any player has a history of injury, he is also specifically examined for proof of recovery before being allowed to participate. There should be emphasis on histories of head and neck injuries or abnormalities, and of previous fractures, dislocations, or sprains. We must be thorough.

The second important part of the prevention phase is preseason conditioning. Heavy weight training of various types has become increasingly popular in the past 20 years. We previously believed that hypertrophy of muscles was detrimental to most athletes, especially in track, swimming, tennis, bas-

ketball, and golf. In fact, wrestlers and football players were the only ones allowed to develop *big* muscles. Now the picture has completely changed and every sport utilizes isotonic exercises, and greater performance has resulted. We modify the "muscle bound" effect by requiring accompanying *stretching* exercises with heavy weight work. We require endurance and sprint running. Big muscles are of little value if they do not have an abundant blood supply. Therefore, we stress cardiovascular efficiency.

Especially in football, the athlete must harden himself before actual practice begins or he risks serious injury during early season practice. Quite often it is not enough to *tell* a young boy what to do—he must be supervised and guided. In most parts of the country it is very hot in late summer and early fall, so the athlete must pay particular attention to conditioning his body to extremes of heat and humidity. He should devote a portion of each day's workout (preseason) to the heat of the day. Within about two weeks of this exposure,his body should be reasonably acclimatized for the work ahead. This work, coupled with "common sense" workouts and adequate fluid intake, could greatly eliminate heat exhaustion and/or heat stroke problems.

Another aspect of conditioning is *stretching*. All of our calisthenics are *stretching* exercises. We want the athlete to be flexible. One of the most irritating injuries to the player, coach, and trainer is the so-called pulled muscle, which usually is caused by a muscle not being able to relax sufficiently when its antagonist is contracting, or when it is suddenly called upon to contract and hold against an overpowering force. We believe that progressive stretching of all big muscles during an adequate period of time will greatly alleviate the seriousness of this type of injury.

Emergency Care

All *certified* trainers are well schooled in advanced first aid and are, or should be, capable of careful and efficient emergency care of the injured athlete. A relatively minor injury can become serious if mishandled, and a serious one can be fatal if not carefully handled. The trainer's responsibility, in the absence of his team physician, is to insure that the injured athlete is safely treated until the physician is present, either on the field or in the hospital. To this end the trainer must not only be competent but must know how to use emergency equipment. This includes splints, stretchers, airways, oxygen units, and other devices. A trainer should carry an oral screw and a pair of tongue forceps while on the field, and should know when to use them.

Through the years we have tried to emphasize to our student trainers (and first aid classes) what not to do as well as what to do in an emergency situation. For instance, we do not want to move an unconscious person on the field until we have established communication with him and attempted to have him, in effect, "tell us where he hurts." This rule of course excludes the absolute emergencies of stoppage of breathing, stoppage of heart action, or profuse bleeding. But we would rather do nothing for a short period of time than hurriedly do the wrong thing. The trainer's job is to get the injured athlete to the physician safely and with the proper steps taken to minimize the seriousness of the injury.

Rehabilitation

Knowing that many sports, particularly football, ice hockey, and other contact sports, are of a violent nature, we can expect injuries. The trainer must be accom-

plished in postinjury rehabilitation. The diagnosis, treatment (surgical or otherwise), and rehabilitation prescription are the responsibility of the physician and surgeon. The precise, efficient, and patient rehabilitation process is the work of the trainer. He must be competent to guide and direct the patient properly; he must maintain enthusiasm, and he must be persistent to insure complete recovery; he also must have complete knowledge and understanding of the rehabilitative process and technique in which he is involved. I believe that a good, experienced athletic trainer is the leading authority in *this* phase of sports medicine. He can "get the man back" faster and more safely than any other person. This may seem to be presumptuous, but I believe that the competent, well educated athletic trainer is the vital link for the continued well being of sports. It simply is not practical to expect coaches to have the time or knowledge for the careful rehabilitation required following an injury. The team physician certainly does not have the time (and may or may not have the experience) to follow up on his diagnosis and treatment prescription.

Throughout the years, I have been blessed with great team physicians who have taught me the meaning of teamwork. By working together as a close unit, the coaches, trainers and physicians can develop and field better athletic teams with greater safety for the athletes.

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Knee arthrography

Mark A. Fleming, MD; John A. Murray, MD; Kenneth M. Jensen, MD

Positive contrast arthrography of the knee, a relatively simple procedure, is highly accurate in experienced hands. The clinical indications and usefulness of the procedure are emphasized, and the diagnostic results of 100 surgical cases are listed. Pooling of contrast agent in the medial joint space, a finding not previously emphasized, may reflect a variety of abnormalities in the knee joint.

This article emphasizes the diagnostic accuracy of single contrast knee arthrography in experienced hands. The clinical usefulness of the procedure will be discussed. The differential diagnosis of pooling of contrast medium in the medial joint space, a finding of diagnostic significance, will be emphasized. In addition, some anatomic variations encountered in knee arthrography will be noted.

Knee arthrography has been practiced for over half a century. The earliest studies were performed using gas as the contrast medium. By the early 1940s, positive contrast agents were being employed, both alone and in combination with gas. Lindblom's work in knee arthrography was the first to provide evidence of the superiority of positive contrast agents used alone. Lindblom substantiated that knee arthrography can be of definite practical value with minimal risk of complications.[1] Since the early studies, various authors have reported the merits of positive and double contrast methods.[2-5] It is now clear that both methods can yield a high degree of accuracy.

Clinical Indications

The clinician has found knee arthrography to be of the greatest help in cases in which the history and physical examination have left doubt as to the etiology of the internal derangement of the knee. Such doubt may exist with regard to a chronically swollen knee without other signs or symptoms. A patient's history may strongly suggest a significant injury in spite of normal physical findings. Knee arthrography also is useful in evaluating female patients with signs and symptoms of torn cartilage, compensation cases, postoperative failures, and in ruling out suspected tears in the opposite cartilages preoperatively.

Methods and Results

A variety of technical approaches to knee arthrography have been proposed.[1,2,5] Our method employs fluoroscopy to deter-

1.

View No.	Projection
1, 2	Anteroposterior stereo, 3° either side of the joint line
3, 4, 5	Anteroposterior external rotation: 20°, 40°, and 60°
6, 7, 8	Anteroposterior internal rotation: 20°, 40°, 60°
9	Posteroanterior through the joint line
10, 11	Posteroanterior stereo, 30° external rotation
12, 13	Lateral stereo, 90° flexion, for cruciates
14	Medial collateral stress
15	Lateral collateral stress

mine the angle of inclination of the tibial plateau, followed by a radiographic positive contrast study using the Franklin head unit. All fluid is removed from the joint prior to injection of contrast agent; 7 cc of 76% meglumine diatrizoate and sodium diatrizoate is injected and an elastic wrap is applied above the knee to prevent filling of the suprapatellar bursa. The contrast medium is dispersed in the joint first by passive manipulation of the knee; the patient is then instructed to walk and actively flex and extend the knee. The radiographic study consists of 15 views, including three stereo pairs, performed with 15 minutes of injection (Fig 1).

One of us (KMJ) began performing knee arthrograms in 1970; at present approximately 400 studies are done in our department annually. In order to evaluate the diagnostic accuracy of our procedure, 100 consecutive surgical cases were reviewed. The data are presented in Fig 2, according to the method used by Lusted.[8]

Discussion

The semilunar cartilages are visualized as radiolucent wedges at the margin of the tibial plateau. As the knee is rotated, different portions of each meniscus come into tangential projection and are seen to best advantage. Stereo views are employed to improve definition at various points in the

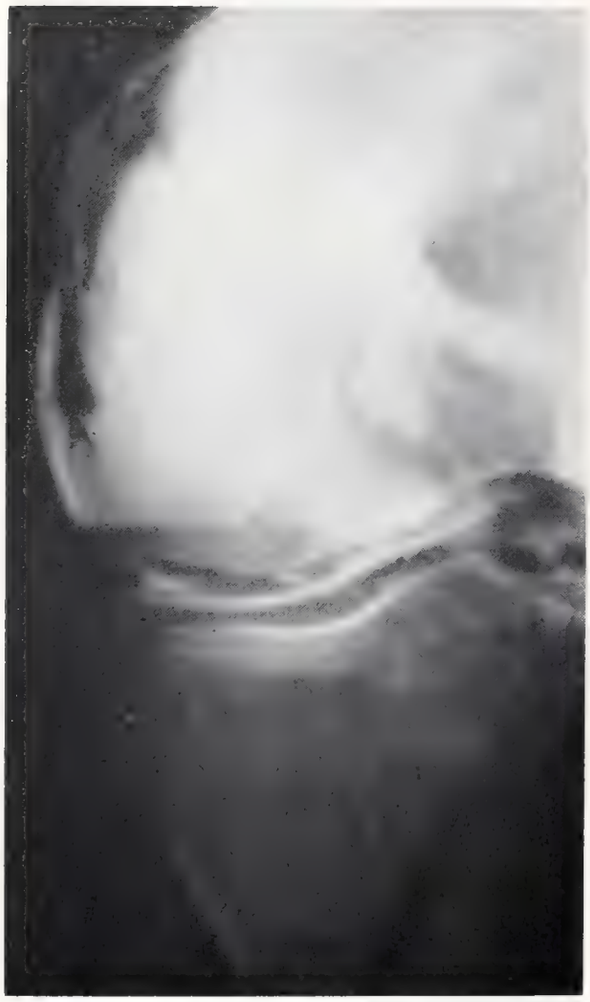
2. Arthrogram diagnoses.

SURGICAL OUTCOME		Torn	Negative	
Torn		90% true positive	10% false positive	Medial Meniscus
Negative		6% false negative	94% true negative	Medial Meniscus
Torn		81% true positive	19% false negative	Lateral Meniscus
Negative		3% false negative	97% true negative	Lateral Meniscus

3a. Arthrogram film showing an apparently normal medial meniscus.

3b. Surgical specimen with fragments approximated.

3c. Surgical specimen with fragments separated.



4a. Arthrogram film showing pooling of contrast medium adjacent to blunted apex.

4b. Surgical specimen showing "beak" tear.

examination. The lateral 90° flexion views are employed for evaluation of the cruciate ligaments. Lindblom and others have reported successful evaluation of the cruciates[1,6]; however, our success with the diagnosis of cruciate injuries has been limited.

Despite manipulation of the knee following injection of contrast medium, the contrast agent will occasionally fail to enter a meniscal tear because of close approximation of the fractured cartilage fragments. This phenomenon has been observed in bucket-handle type tears, in which the fragments may assume their normal anatomic position after producing symptoms of locking. The tear may fail to fill with contrast agent and hence will not be demonstrated arthrographically (Fig 3).

Occasionally, radial tears may be missed entirely because of failure of the tear to project parallel to the central ray on any of the views. Concentric and horizontal tears, on the other hand, generally present no difficulty in diagnosis. In most situations an abnormality should appear on two or more views to merit diagnostic significance.

Tears of the medial meniscus are far more common than those of the lateral.[7] Fig 2 illustrates the fact that arthrographic evaluation of the lateral meniscus is less accurate than that of the medial cartilage. The reason for difficulty in diagnosis of lateral meniscus injuries is that the bursa of the popliteus tendon crosses the posterolateral aspect of the lateral cartilage, causing a troublesome overlapping shadow on the arthrogram.[1,4] Unfortunately, some of the most difficult clinical problems also arise from the posterolateral portion of the lateral meniscus. The volume of contrast medium injected for knee arthrography is kept small in order to minimize filling of the popliteus bursa.

1. Chondromalacia
2. Medial meniscus tears
   (a) Bucket-handle
   (b) Beak
   (c) Dislocated meniscal fragment
3. Degenerated, frayed medial meniscus
4. Medial meniscus removed
5. Atrophy, laxity, or tear of cruciates
6. Deformity of medial tibial plateau
7. Lax medial collateral ligament
8. Osteochondritis dissecans
9. Incomplete extension of the knee
10. Synovitis
11. Idiopathic

5. Medial pooling.

6. Pooling and horizontal tear, medial meniscus.

Blunting of the normally sharp apex (inner margin) of the meniscus may indicate a tear of the "beak" type, bucket-handle type, or a complete separation of a fragment (Fig 4). Pooling of contrast medium adjacent to a blunted apex is frequently seen with such tears. Pooling of contrast agent in the medial joint space may signify any of several abnormalities as listed in Fig 3. Fig 6 is an example of pooling associated with a torn, degenerated medial meniscus. Chondromalacia involving the hyaline cartilage of the femoral condyles and/or tibial plateau may be readily appreciated arthrographically in many instances and may be associated with symptoms similar to those caused by meniscal injury. In addition to pooling, other arthrographic manifestations of chondromalacia are roughening and thinning of the hyaline cartilage of the articulating surfaces of the femur and tibia.

Anatomic Variations

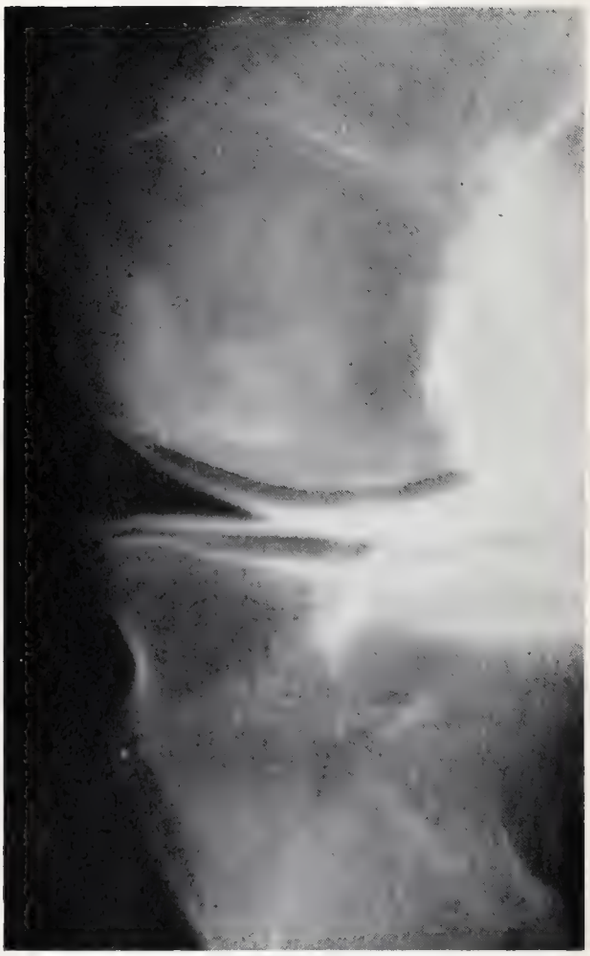
A number of anatomic variations which may be mistaken for injury are encountered in arthrography. Discoid lateral meniscus, however, is an anatomic variation which may in itself produce symptoms of an injured meniscus.[7] Furthermore, discoid menisci are prone to degeneration and/or tears. Most of the problems that patients have referable to discoid lateral menisci become manifest before the age of 30, often in late childhood (Fig 7). The incidence of discoid lateral meniscus in all surgical cases in our experience is about 2%. Smillie, in his series of 8,000 meniscectomies, found 375 discoid lateral menisci.[7]

The capsular attachment is frequently a source of confusion in knee arthrography. The presence of contrast medium over the periphery of the cartilage may reflect a

7a. Arthrogram view of discoid lateral meniscus, with contrast medium present in degenerated central portion.

7b. Surgical specimen.

8a. Arthrogram film showing apparent tear, posterior horn, medial meniscus.



8b. Slightly different projection, showing that the apparent abnormality lies outside of the meniscus, thus representing a "pouch."

capsular separation or it may represent a "pouch," which is a normal variation in the attachment. Pouches of contrast agent at the periphery of the medial meniscus occur frequently and at times are impossible to distinguish from meniscal tears. In a review of 196 arthrograms, 42% of the cases exhibited superior pouches, inferior pouches, or both (Fig 8).

Another anatomic variation encountered in knee arthrography is filling of the tibiofibular joint with contrast medium; this occurred to some degree in approximately 70% of our cases. Enlarged semimembranosus-semitendinosus bursa (Baker's cyst) was seen in approximately 20% of our cases.

Conclusions

Knee arthrography, when performed carefully and with an adequate number of different projections, can yield a high degree of diagnostic accuracy in experienced hands. Some of the anatomic variations and pitfalls have been discussed.

The clinical value of knee arthrography is now well established. Arthrographic findings often shorten the time interval between injury and surgery and frequently play an important role in determining the type of surgery to be performed.

The significance of pooling of contrast agent in the medial joint space has not been emphasized previously. Medial pooling frequently is observed and often is a valuable clue to the presence of significant abnormalities.

References

1. Lindblom K: Arthrography of the knee. Acta Radiol Supp 74, 1948.
2. Jelasco DV: Positive contrast arthrography of the knee. Amer J Roentgenol 103:669-673, 1968.
3. Olson RW: Knee arthrography. Amer J Roentgenol 101:897-914, 1967.
4. Freiberger RH, Killoran PJ, Cardona G: Arthrography of the knee by double contrast method. Amer J Roentgenol 97:736-747, 1966.
5. Wiener SN: Contrast arthrography of the knee joint: a comparison of positive and negative methods. Radiology 89:1083-1086, 1967.
6. Fagerberg S: Tomographic studies on the normal and injured knee. Acta Radiol Supp 138, 1956.
7. Smillie IS: Injuries of the Knee Joint. Baltimore, Williams and Wilkins Co., 1970.
8. Lusted LB: Decision-making studies in patient management. New Eng J Med 284:416-424, 1971.

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Post-traumatic surgery of the proximal interphalangeal joint of the hand

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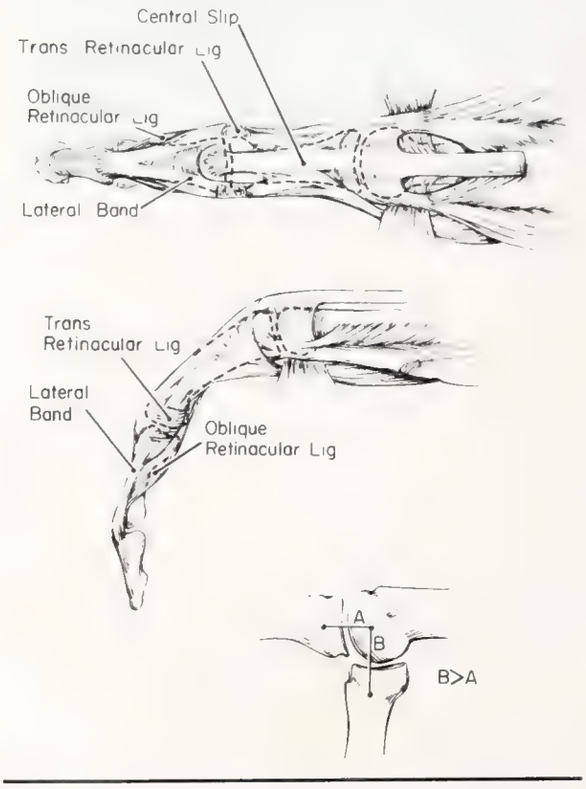
Four common problems of the PIP joint in post-traumatized hands are presented with the author's preference for repair. A knowledge of the normal and pathologic anatomy of the extensor and flexor mechanisms as well as of the joint itself is essential for the planning of the proper surgical procedure.

The common post-traumatic surgical problems of the proximal interphalangeal joint of the hand are those of limited flexion, limited extension, the boutonnière deformity and the recurvatum deformity. Definitive repair of each problem is illustrated with a brief review of the anatomic structures involved.

Anatomy of the PIP Joint

The common extensor tendon divides into a central band and two lateral bands after passing over the metacarpophalangeal (MP) joint. The central band inserts into the base of the second metacarpal beyond the proximal interphalangeal (PIP) joint. The lateral bands, joined by the interosseus aponeuroses, fuse to form the terminal extensor tendon which inserts into the distal phalanx. The saggital bands and retinacular ligaments join the lateral bands at the PIP joint (Fig 1). The retinacular ligaments, oblique and transverse, exert a checkrein effect which limits dorsal excursion of the bands. The extensor "hood" that is formed by the intrinsic aponeuroses and retinacular ligaments limits the excursion of the central tendon and absorbs most of the force of hyperextension. The PIP joint itself is stabilized laterally by the collateral ligaments. Due to the asymmetry of the phalangeal head, the dorsal or "cord" portion of each collateral ligament is stretched tightly when the joint is flexed, and loosened in extension. The elastic attachment of the fibrous volar plate to the proximal phalanx is fully stretched when the joint is in extension and relaxed with flexion. Any or all of these structures may be involved in post-traumatic dysfunction of the joint.



1. Anatomy of the proximal interphalangeal joint.

Post-Traumatic Limitation of Flexion

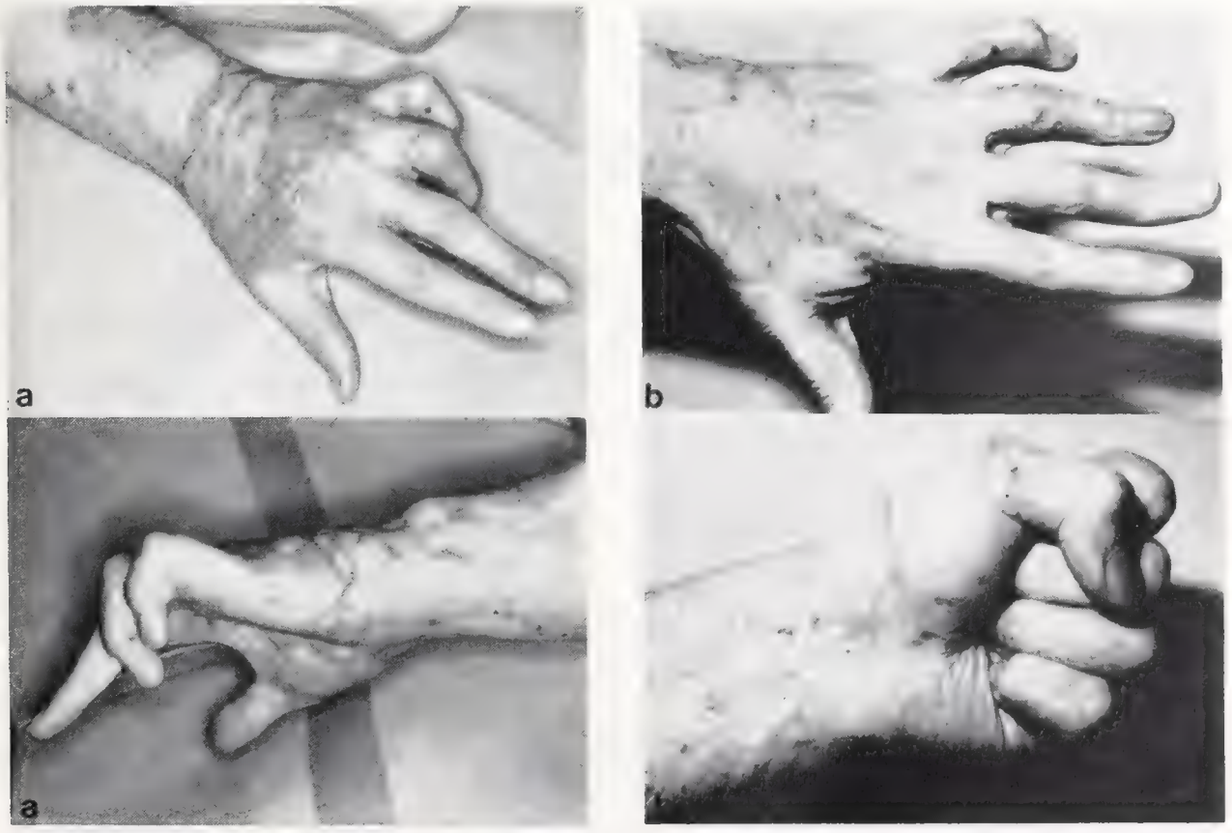
Flexion of the PIP joint may be inhibited by skin contracture, long extensor tendon contracture, tight collateral ligaments, or adherent retinacular or volar capsular ligaments. Thermal injury, prolonged immobilization in extension, and crush injuries of the hand are the common etiologies. Surgical intervention is not necessary if the joint can be passively flexed to 75°. Physical therapy and dynamic splinting can usually restore full function. Surgical release is indicated for more severe limitation. Release of the joint primarily involves sectioning of the dorsal or "cord"

portion of the collateral ligaments while preserving the intact collateral ligaments, as illustrated in the following case:

Case 1: A 42-year-old white man was unable to flex the extended index finger more than 30° six months following a dorsal laceration and infection. A curved dorsal skin incision exposed the adherent extensor tendon which was separated from the phalanx. Freeing the adherent transverse retinacular ligaments allowed exposure of the tight collateral ligaments. A portion of the contracted cord portion was resected bilaterally, allowing 80° of joint flexion. The volar synovial pouch was reestablished by blunt dissection and volar plate adhesions were lysed. Silastic sheeting was secured beneath the previously adherent extensor tendon. Full flexion was obtained. Active exercises were begun on the third postoperative day, and full exercises after seven days.

Post-traumatic Limitation of Extension

The majority of limitations of extension are due to the flexion contractures of thermal injury or to direct injury in which either proper postoperative exercises were not performed or infection occurred. Skin contracture, flexor tendon shortening, adherence of the volar plate, collateral, and retinacular ligaments, and shortening of the fan portion of the collateral ligaments are commonly involved. Resection of the volar or "fan" portion of the collateral ligaments and freeing the volar plate are most frequently required as illustrated by the following case:



2. Case 2. Flexion contracture of small and ring fingers (a) preoperatively, and (b) postoperatively.

Case 2: A 16-year-old white boy received third-degree burns of the dorsal and volar aspects of the left hand. Early excision of the eschars and thick split skin grafts salvaged the hand (Fig 2). Function was excellent with the exception of a lack of extension of the small (70°) and ring fingers (60°). Each finger was surgically released five months after the original grafting procedure. Full-thickness groin skin grafts replaced the deficit of volar skin. A portion of the "fan" of each collateral ligament was excised and palmar plates were mobilized through the volar approach. Postoperatively, each finger retained full flexion. The small finger lacked 10° of full extension and the ring finger extended fully.

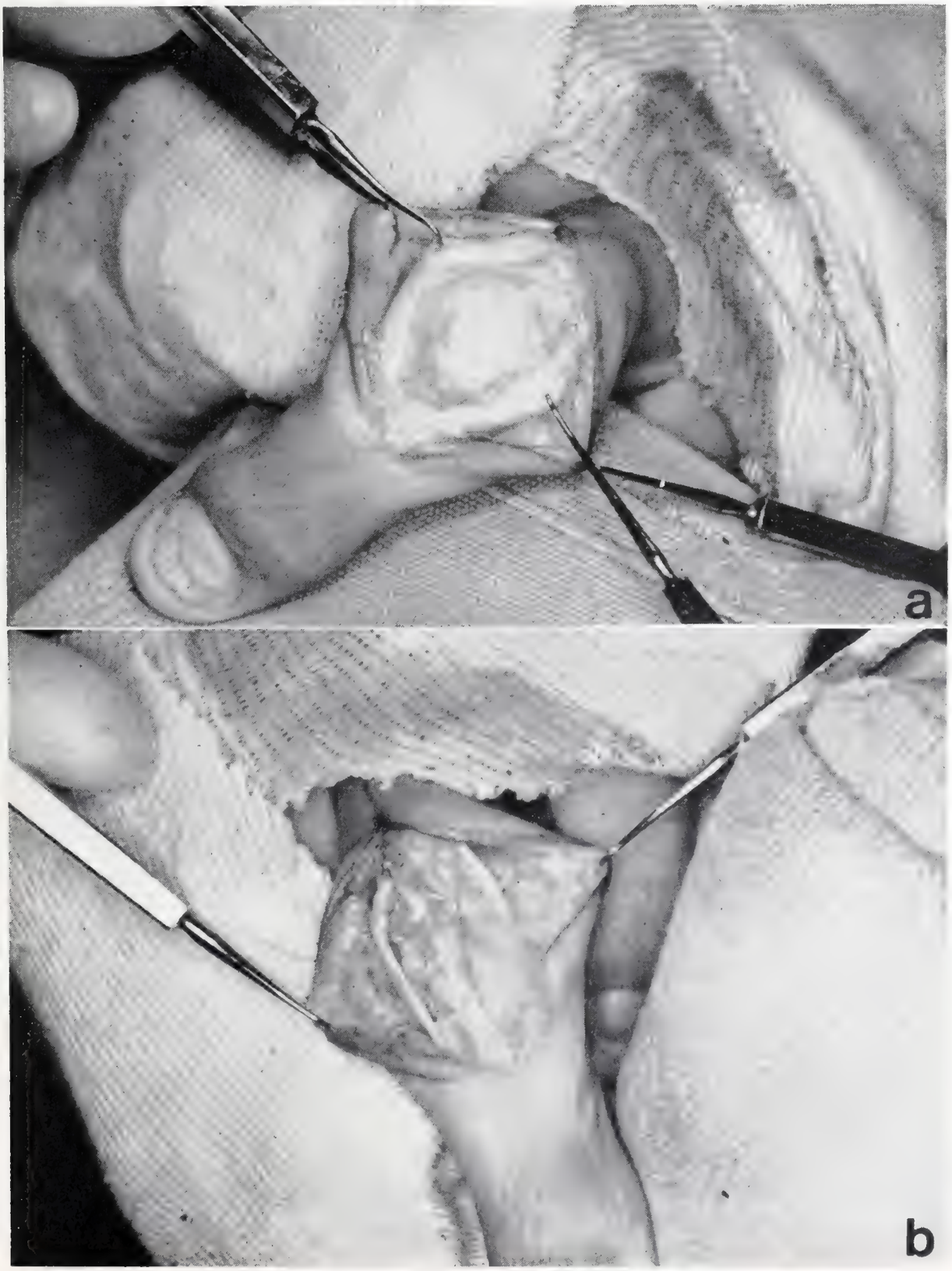
If the skin, collateral ligaments and volar plates are released but satisfactory passive flexion or extension is not obtained, it may be necessary to release structures other than those of the joint itself. Tenotomies and tendolyses of flexors and extensors may be necessary. More severely damaged joints require substitution of Silastic joint prostheses of the Swanson or Niebauer types. Early exercise regimens and dynamic splinting are of utmost importance in the postoperative period.

Post-traumatic Boutonnière Deformity

The boutonnière deformity results from division of the central extensor slip insertion. The transverse retinacular ligaments are contracted, drawing the unsupported lateral bands to a position below the axis of the joint. The oblique retinacular fibers contract, causing the typical flexion of the PIP joint and adding to the hyperextension of the DIP joint. Primary repair of the central slip using the distal tendon stump may be feasible in clean, incised wounds. The once-common "burn boutonnière" may respond to pin traction[1] without surgical repair. This deformity is not a true boutonnière but rather a stretching of the central slip due to contracting forces of the burned skin. When the central band ruptures in blunt nonlacerating injuries, four weeks of splinting may be adequate. The MP joint should be placed in 10° of flexion, the PIP fully extended, and the DIP placed in 45° of flexion. If a bony fragment is avulsed with the insertion of the central slip, pinning to the middle phalanx is required.

Secondary repair of boutonnière deformities is extremely difficult. A number of authors have proposed various methods for reconstituting the central slip, using tendon grafts,[2] or retouting[3] or repositioning[4] the lateral bands. Our preference is for splitting the lateral bands with midline suture[5] either in the acute injury or as a secondary repair. Dividing the bands longitudinally allows the retinacular ligaments to maintain joint stability in flexion without restraining the lateral bands in their dorsal excursion during flexion. This method has an advantage additional to the preservation of a relatively normally positioned lateral band. Should DIP flexion be impaired later, the distal sutured halves can be cut secondarily leaving the proximal repair intact to prevent recurrence of the boutonnière.
Case 3: An 18-year-old white man sustained an unrecognized laceration of the central slip and subsequently developed an infection. A secondary repair of the deformity was performed through a dorsal approach. Each lateral band was split but not detached (Fig 3). The medial portions were sutured in the midline. Passive flexion was unimpeded. Postoperative active exercises were started at two weeks, and passive flexion aided by dynamic splinting at four weeks. The boutonnière has not recurred and the PIP flexed to 75° at last examination.

3. Case 3. Post-traumatic boutonnière deformity. (a) Exposure of lateral bands. (b) Suture of divided lateral bands to reconstruct a central slip.



Post-traumatic Recurvatum Deformity

Hyperextension of the PIP joint after trauma usually is an undesirable sequel of direct trauma to the volar aspect of the joint or of flexor tendon grafting.While the deformity in patients with naturally hyperextensible PIP joints can be prevented effectively by prophylactic volar plication at the time of tendon grafting, most of the problems relate to tightness of the lumbrical and dorsal luxation of the lateral bands. The lumbrical muscles arise from the flexor profundus tendon and insert into the dorsal "hood." Post-traumatic contraction of the lumbrical or its tendon exerts a retracting force on the hood causing hyperextension of the PIP joint. The power of the flexor profundus is increased with PIP hyperextension, thus favoring flexion of the DIP joint. Incorporating the lumbrical in an inadvertent suture causing shortening of the overall length has the effect of retracting the hood. Placing a flexor graft that is too long allows the lumbrical origin to retract with the same result.

Two methods of repair of the recurvatum deformity, exclusive of revision of the tendon graft or lumbrical sectioning, are reinforcement of the volar plate[6] and recreation of Landsmeer's ligament.[7] The oblique retinacular ligament, commonly referred to as Landsmeer's ligament, originates on the flexor sheath and inserts with the distal lateral bands, exerting a restraint upon hypertension of the PIP joint. The checkrein is reestablished using a portion of the lateral band as illustrated in the following case: Case 4: A 20-year-old white man had lacerated the flexor tendons of the right ring finger. Following a secondary tendon graft, an annoying recurvatum deformity of the PIP joint developed. An attempt at plication of the volar plate had been unsuccessful. Examination revealed flexion of the ring finger to within 1.0 cm of the palmar crease. Straightening the finger led to a hyperextension of the PIP joint. Through a lateral approach, one-half of the radical lateral band was detached proximally. This tendon strip was threaded beneath Clelands' ligament and attached to the proximal pulley with the PIP joint in 15% of flexion. Postoperatively, the patient lacks the 15° of extension but reports no further hyperextension. Overall function is improved.

References

1. Larson DL, Wofford BH, Evans EB, et al: Repair of the boutonnière deformity of the burned hand. J Trauma 10:481-487, 1970.

2. Nichols HM: Repair of extensor tendon insertions in the fingers. J Bone Joint Surg 33A:836-841, 1951.

3. Heywood AWB: Correction of the rheumatoid boutonnière deformity. J Bone Joint Surg 51A:1309-J Bone Joint Surg 51A:1309-1314, 1969.

4. Littler JW, Eaton RG: Redistribution of forces in the correction of the boutonnière deformity. J Bone Joint Surg 49A:1267-1274, 1967.

5. Aiche A, Barsky AJ, Weiner DL: Prevention of the boutonnière deformity. Plast Reconstr Surg 46(2):164-168, 1970.

6. Tubiana R: Surgical repair of the extensor apparatus of the fingers. Surg Clin N Amer 48:1015-1031, 1968.

7. Littler JW: The finger extensor mechanism. Surg Clin N Amer 47:415-432, 1967.

Dr. Wilkinson, The University of Texas Medical School at San Antonio, 7703 Floyd Curl Drive, San Antonio, Texas 78284.

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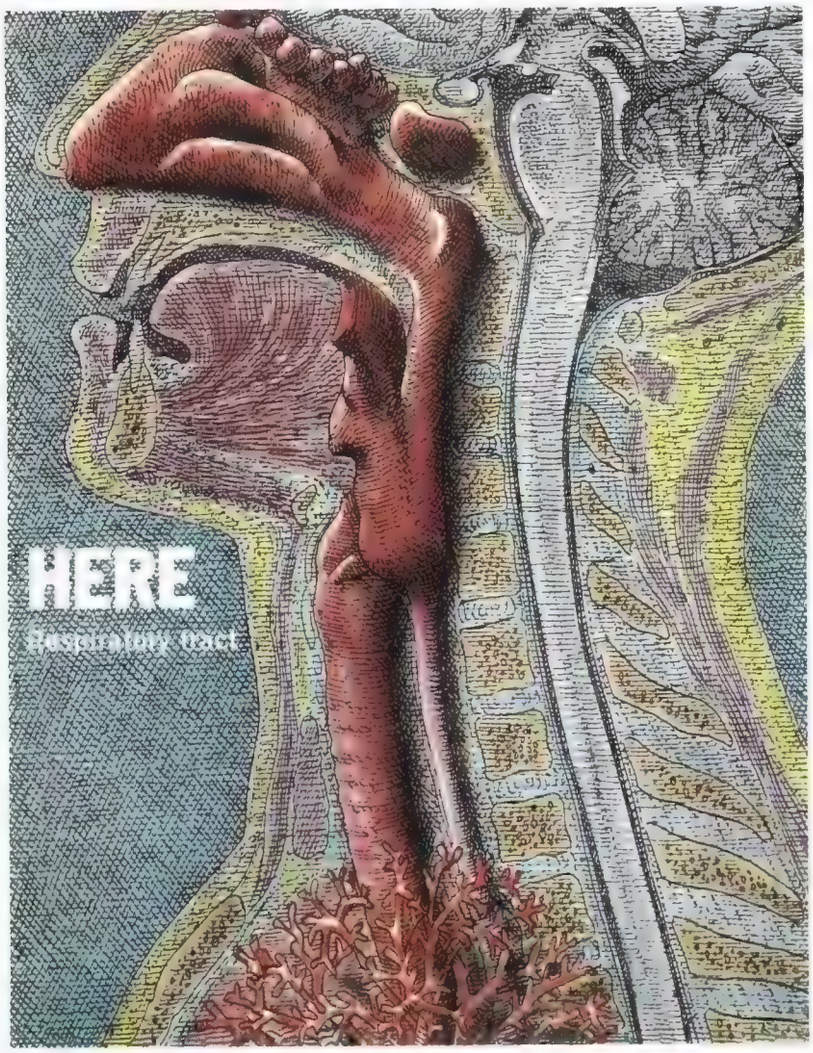

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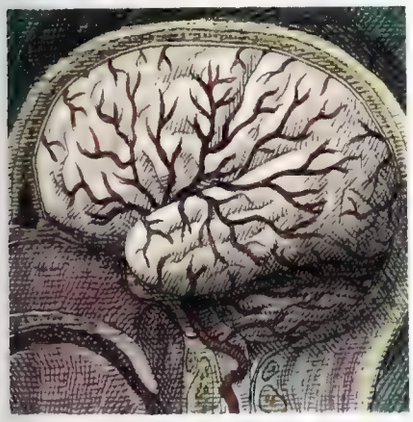

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Overdosage: Keep the medication out of the reach of children since accidental overdosage may cause severe, even fatal, respiratory depression. Signs of overdosage include flushing, lethargy or coma, hypotonic reflexes, nystagmus, pinpoint pupils, tachycardia and respiratory depression which may occur 12 to 30 hours after overdose. Evacuate stomach by lavage, establish a patent airway and, when necessary, assist respiration mechanically. Use a narcotic antagonist in severe respiratory depression. Observation should extend over at least 48 hours.

Dosage forms: Tablets, 2.5 mg. of diphenoxylate HCl with 0.025 mg. of atropine sulfate. *Liquid,* 2.5 mg. of diphenoxylate HCl and 0.025 mg. of atropine sulfate per 5 ml. A plastic dropper calibrated in increments of ½ ml. (total capacity, 2 ml.) accompanies each 2-oz. bottle of Lomotil liquid.

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Warnings: Caution patients about activities requiring alertness (e.g., operating vehicles or machinery). Warn patients of possible additive effects with alcohol and other CNS depressants.

Usage in Pregnancy: In pregnancy, nursing mothers and women who might bear children, weigh potential benefits against hazards. Inhibition of lactation may occur.

Effect on PBI Determination and I^{131} Uptake: Isopropamide iodide may alter PBI test results and will suppress I^{131} uptake. Substitute thyroid tests unaffected by exogenous iodides.

Precautions: Use cautiously in persons with cardiovascular disease, glaucoma, prostatic hypertrophy, hyperthyroidism.

Adverse Reactions: Drowsiness, excessive dryness of nose, throat or mouth; nervousness; or insomnia. Also, nausea, vomiting, epigastric distress, diarrhea, rash, dizziness, weakness, chest tightness, angina pain, abdominal pain, irritability, palpitation, headache, incoordination, tremor, dysuria, difficulty in urination, thrombocytopenia, leukopenia, convulsions, hypertension, hypotension, anorexia, constipation, visual disturbances, iodine toxicity (acne, parotitis).

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Texas and nuclear power

Philip C. Johnson, MD

Texas must look for new sources of electric power to prevent an energy crisis. Nuclear power is the most practical of the new forms of electricity. The proposal of a nuclear power plant generates considerable controversy among the citizens of the community. Much debate centers around the medical consequences of the released radioactivity. The practicing physician can help his community resolve the problem. This review is designed to give the Texas physician the information necessary to answer his patients' questions concerning nuclear power.

Like the rest of the United States, Texas must look for new sources of electric power to prevent an energy crisis in the 1980s. Of the available alternatives, nuclear power is the only practical answer. First, there are no large undeveloped hydroelectric sources in our state. Second, our low sulfur lignite coal supplies are limited and the very mining of coal is distasteful to some. Third, geothermal and tidal sources, even if they were practical sources of power, are not available in large quantities. Fourth, solar energy is so thinly spread that it has not yet proved feasible to use it except for small, specialized units. When one considers the huge land areas (10% of the state of Arizona) which would be required to supply sufficient sunlight energy to equal the US generating capacity, it seems obvious that we must relegate development of large solar power plants to the next century. Fifth, Texas power companies are supporting research designed to make nuclear fusion power available for electric generation. However, even with greatly increased federal funding, there is little chance that these efforts or those of others will be able to develop fusion to a point where it could be an economical power source prior to the end of this century. Thus, nuclear power must be developed unless we are willing to return our technological society to a primitive one where muscle power is a significant portion of the power used. Even if we find ways to decrease power use, we only postpone the inevitable since eventually oil, gas and coal will be depleted because they are being used faster than they are formed by geologic processes.

As a nuclear power plant travels its laborious path from idea to production of electricity, about ten years elapses. Even so, the plant invariably stirs up controversy. At times the construction of a nuclear power plant becomes one of the hottest issues confronting a community. Usually, the controversy arises because of fears of radioactivity and because some nuclear plants release more heat into cooling waters than do modern coal or gas plants. Additional debate centers around the medical consequences of released radioactivity. It is in this area where the practicing physician can help his community make the correct decisions. While the information necessary to answer the questions about nuclear power plants is available in many nonmedical sources, it is often difficult to find this information in a single readily available source and to find it in a form which can be used without prolonged study and calculations. Therefore, a summary of information pertinent to this problem is included here.

Nuclear Power

Descriptions of nuclear power plants are available in any encyclopedia under "atomic energy" or in Atomic Energy Commission (AEC) publications. The plants are classified according to the way the heat is taken from the reactor core, eg, boiling water (BWR), pressurized water

(PWR), gas (HTGR), etc. Reactors commonly in operation now are of the BWR and PWR type. In a BWR, water passes through the reactor core where it is heated and steam produced. The steam is used to drive a turbine generator. In PWR or HTGR types, reactor coolant is not actually passed through the turbine but instead is passed into a heat exchanger where it heats water to produce steam. In all types the steam is used to make electricity conventionally. With heat exchangers radioactivity released in the reactor is physically separated from the turbine's steam supply. All plants use tubular heat exchangers which prevent any direct contact between plant water used to make steam and cooling water from a lake or river. The cooling water effluent from an average nuclear plant is returned to the water source at 15F or less above the ambient temperature of the water source.

The design and construction of all reactors is closely supervised by the AEC. In the highly unlikely event of complete destruction and meltdown of the reactor core by sabotage, poor management, error, etc, the containment vessel will absorb the heat produced and prevent the release of vaporized radioactivity. While the principles of an atomic bomb and the atomic reactor are similar, there is no possibility that a reactor core can become an atomic bomb. The only danger to the surrounding community comes from the sudden release of radioactivity. Some have questioned whether the safety features of a reactor are sufficient to prevent a catastrophe. Understandably, the AEC and reactor manufacturers have been reluctant to destroy a reactor to prove the safety features. The results from certain preliminary studies of the safety devices have been the center of controversy as various factions attempt to extrapolate sketchy experimental results to their cause. To help settle the safety question, the AEC plans extensive experiments. Although it is impossible to prove a negative, the evidence is very strong that the current licensing procedures guarantee a fail-safe reactor which even under the worst conditions imaginable will do no serious harm to the surrounding areas.

Low-Level Radioactive Releases

There is often much confusion in the public's mind about the danger of low-level radioactivity releases. When considering radioactivity releases, it is wise to remember that all power plants emit pollutants and all types of pollution can cause disease when a pollutant is present in sufficient concentrations. Surprisingly, all types of power plants may release radioactivity since most of our fuels contain some radioactivity because they were located near uranium deposits.

Fig 1 compares the noxious effluents of nuclear and conventional plants. Nuclear plants come out well as far as sulfur dioxide, nitrogen oxides, mercury, particulates, and carbon dioxide are concerned, since they produce none. However, they produce considerably more radioactivity. Produced radioactivity is of two types: fission and generated. Radioactivity is generated whenever the released neutrons are captured by an atom. This atom may be in the fuel where it will initiate a new fission or produce plutonium. The atom may be in the plant water or reactor supporting structures. Fission products are the waste material left after heat has been removed from fuel. The uranium is protectively coated (clad) to prevent fission product leakage, but inevitably some leakage occurs. Fission products will then pass into the reactor cooling water. When this radioactivity is a noble gas, eg, krypton, the gas is taken from the reactor cooling water and pumped

into holding tanks to allow time for decay of short-lived radiogases. The remaining radioactive gases may be trapped or vented at closely regulated and monitored rates so that the concentration per liter of air stays below prescribed limits. Nongaseous fission products are removed from the reactor water through ion exchange resins and filters. After storage for decay to reduce its radioactivity, it is shipped in special tanks to permanent storage and burial sites. By shipment time it consists essentially of strontium 90 and cesium 137. Some fission-derived radioactivity may be contained in water or steam leaking from the closed reactor cooling system. This water is stored until its radioactivity is low enough for disposal.

Radioactive hydrogen (tritium) presents a special problem with regard to radioactive releases. It is formed as a fission product and is also produced directly in the reactor water both from boron and natural deuterium. The tritium appears as a gas or as water. It is almost impossible to remove tritiated water from reactor water. All natural water supplies contain some tritiated water. Typically, water released from a nuclear power plant contains 2% more tritium activity than the natural levels it contained before it entered the plant. It is therefore not likely to become a significant biologic hazard in the foreseeable future.

Radioactive releases are monitored and closely watched by the AEC and the plant operators. We have efficient ways of detecting these releases. While the total curies of radioactivity released by a nuclear plant are considerably greater than that of a coal plant of equal size, there is very little difference between them if the potential biological effect of the radioactive releases is taken into account. All power

1. Pollution generated by power plants of similar size.[5]

Unit	Pounds			
	Ton Coal	Ton Oil	10^6 SCF Gas	Ton Nuclear
Aldehydes	0.005	0.14	1.0	0
Carbon monoxide	0.5	0.01	0	0
Hydrocarbons	0.2	0.8	0	0
Oxide nitrogen	20.0	26.0	390.0	0
Oxide sulfur	133.0	62.8	0.4	0
Particulates	4.3	0.88	15.0	0
Carbon dioxide	2.0		2×10^6	0
Fuel needed (1,000 MWe/year)	2.3×10^6	1.5×10^6	6.8×10^{10}	5×10^4
Thermal efficiency		33% to 38%		> 32%
	Ci Radioactivity per year per 1,000 megawatt electric (MWe)			
Radium-thorium	48×10^{-3}	5×10^{-4}	Negligible	0
Radon-222			1.5×10^{-2}*	
Tritium	0.0	0.0	0.0	45
Fission products	0.0	0.0		2.7
Radioactive gases				6.0

*Derived from concentrations of radon in some Texas gases and assuming all radioactivity reaches the environment.

	mrem/year†
Natural Sources	
A. External to the body	
1. From cosmic radiation	50
2. From the earth	47
3. From building materials	3
B. Inside the body	
1. Inhalation of air	5
2. Elements found naturally in human tissues	21
Total, natural sources	126
Man-made Sources:	
A. Medical procedures	
1. Diagnostic x-rays	36‡
2. Radiotherapy x-rays, radioisotopes	10
3. Internal diagnosis, therapy	1
Subtotal	47
B. Atomic energy industry, laboratories	0.2
C. Luminous watch dials, television tubes, radioactive industrial wastes, etc.	2
D. Radioactive fallout	4
Subtotal	6
Total, man-made sources	53
Overall total	179

*2. Radiation exposures per capita in the United States.**

*Modified and taken from: The Genetic Effects of Radiation.[1] Estimated average exposures to the gonads, based on 1963 report of Federal Radiation Council.

†One-thousandth of a rem.

‡Value in 1970 survey (1963 value, 50).

Note: Occupational exposure to x-ray and nuclear medicine physicians and technicians is set at 1.25 rem/qtr by state and federal regulations.

plants are being required to decrease the release of pollutants. This means that pollution from new plants should be considerably below the levels shown in Fig 1. It is probable that each time a nuclear plant allows closing of an older power plant, the total pollution reaching the environment decreases.

Population Exposure

The release of radioactivity from a nuclear power plant will expose the nearby population to radiation; however, the amount is small when compared to natural and other manmade sources. Typical exposures for our population are shown in Fig 2. Because radiation concentration diminishes as the square of the distance, multiple nuclear power plants in a state would not increase these figures significantly. To date, exposure to populations residing adjacent to operating reactors has been below 1 milliroentgen (mr)/year as compared to the 173 mr estimated average exposures from all sources.

The effluent waters from a BWR plant have contained 10 to 100 pCi tritium/liter. This is essentially equal to the natural radioactivity of drinking water. For comparison, whiskey can contain as much as 1,250 and sea water, 350 pCi/liter. If a city were to use a reactor's cooling water effluent undiluted for its only water supply, it would add only 5 mrem/year exposure to those citizens using the water daily. New AEC regulations state that all radioactive releases must be kept as low as practicable so that a hypothetical person living contiguous with power plant fences would receive no more than 5 mr exposure even if he stayed out of doors, unclothed, 24 hours a day for 365 days.

It may be asked how many extra cases of

leukemia and cancer would appear if the radiation exposure of the US population were increased by 1-2 mrem/year. It is assumed by many authorities that 1 million people exposed to 1 roentgen (rem) (1,000 mr) of exposure would result in one or two leukemia cases/year and 8.5×10^3 genetic deaths extended to infinity. This mutation rate is 1/750 of the natural rate. One millirem exposure from nuclear power would produce 1/1000 of these values. If all Texas electricity were produced by nuclear plants (with present day levels of radioactive releases), the public health statisticians would find it difficult, if not impossible, to prove that the releases had increased the present day incidence of cancer, leukemia, or genetic defects.

From all angles the easily measured, highly controlled release of radioactivity would seem to be preferable to the only alternative, more coal-fueled electric plants, which would release additional sulfur dioxide, nitrogen oxide, etc.

Conclusion

With an energy crisis coming closer, this is no time to panic or mislead by holding out false hopes for unproven ways of making power. Yet, if our population is to continue to enjoy the advantages of a high per capita electric consumption, we must develop a sound energy policy. In the foreseeable future, this policy will have to use today's technology and resources. It must realistically evaluate and allow development of new sources of power, eg, fusion, breeder reactors, geothermal, etc. Our state and federal governments should not hinder development of mineral resources by placing unrealistic regulatory requirements on the industries which find, develop, and use our power resources. Financial accountability should be required of those who in the name of the environment cause delays costly to the consumer in the development of our power resources or for those who excessively pollute in the name of progress. With orderly development of nuclear power, Texas can reduce reliance on coal-burning power plants and at the same time save dwindling natural gas supplies. Eventually, nuclear plants will give us the electric power needed to make a cleaner environment. The medical profession can be a constructive force by calming fears about radiation exposure generated by poorly informed but well-meaning lay individuals.

References

1. Asimov I, Dobzhansky T: The genetic effects of radiation. Understanding the atom series. Oak Ridge, Tenn, US Atomic Energy Commission, Division of Technical Information, no. 66-62747, 1966.*

2. Hogerton JF: Atomic power safety. Understanding the atom series. Oak Ridge, Tenn, US Atomic Energy Commission, Division of Technical Information, no. 64-62700, 1964.*

3. Lyerly RL, Mitchell W: Nuclear power plants. Understanding the atom series. Oak Ridge, Tenn, Atomic Energy Commission, Division of Technical Information, no. 67-60199, 1967; 1969 (rev).*

4. Mitchell W, Turner SE: Breeder reactors. Understanding the atom series. Oak Ridge, Tenn, US Atomic Energy Commission, Division of Technical Information, no. 76-611325, 1971.*

5. Terrill JG, Harward ED, Leggett IP: Environmental aspects of nuclear and conventional power plants. Ind Med Surg 36:412, 1967.

6. Nuclear Power in the South. A report of the Southern Governors' Task Force for Nuclear Power Policy, presented at the Southern Governors' Conference (Sept 22) 1970.†

*May be obtained free of charge by writing USAEC, PO Box 62, Oak Ridge, Tenn 37830.

†Available from Southern Interstate Nuclear Board, 7 Dunwoody Park, Suite 104, Atlanta Ga 30341 ($5/copy).

Dr. Johnson, Professor of Medicine, Baylor College of Medicine, Texas Medical Center, Houston 77025.

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Too many beds?

Charles G. Richie, PhD; William S. Moore, MD; Eugene L. Shanahan

Regression analysis, a standard prediction tool, was used to develop equations which were verified on historical data employed from a metropolitan area and put to practical use by estimating hospital bed utilization for future years. The nationwide turnabout in hospital bed utilization is demonstrated in San Antonio.

How many beds are required to support a specific metropolitan area is an issue of significant proportions to providers of medical care, to those involved in the funding thereof, and to the community at large. The addition of beds by expansion or new construction is costly. Lead time required makes accurate short-term, mid-term, and long-term predictions mandatory to assure that beds are available for future demand, and that beds excess to that demand are not constructed. The dilemma of how many beds are required has been approached by various methods, and all concerned would like to have a satisfactory means of predicting utilization.

One method used in such a prediction effort is regression analysis, a standard mathematical application to estimate the future value of one selected variable based upon the past statistical associations between that variable and pertinent related variables. Regression analysis techniques used to predict admissions to hospitals and initial visits to the health care system are fully described in a recent interim report by the Health Resources Planning Unit (HRPU) of the Texas Hospital Association.[1] The technique has been applied to estimation of bed utilization at the county, state, and standard metropolitan statistical area of over 500,000 population.

Research done by the HRPU has been extensive and the conclusion reached that hospital admissions and patient days in short-term general and other special hospitals (excluding psychiatric hospitals) can be successfully predicted for the larger metropolitan areas. Equations for admissions and patient days for 34 metropolitan areas in the United States with populations above 500,000 have been developed and tested.[2,3] The 1970 patient-day predictions have been compared with the Hill-Burton formula predictions for each city: 1960 through 1965 data were used to predict 1970 data; each subsequent five-year grouping—eg, 1961-1966, 1962-1967, etc—also was used to predict 1970 data. Thus, five predictions of 1970 patient days for each city were made representing five, four, three, two, and one year prediction spans, respectively. Average prediction errors were approximately $\pm 5\%$ for five-year forecasting, and $\pm 3\%$ for one year.

In December 1971, the Alamo Area Council of Governments (AACOG) requested admission predictions for the San Antonio Standard Metropolitan Statistical Area and furnished estimates of the necessary independent variables. This interest arose from the 1972 Texas State Plan's projections for San Antonio, which indicated a need for an additional 1,196 beds by 1977. The state plan projections were based on the Hill-Burton formula modified by the past trend in utilization. Initial calculations based on the multivariate regression equation showed that changes in the independent variables within the past year indicated a decline in predicted patient days for San Antonio and a corresponding decline in occupancy. This decline in occupancy was a signal for concern.

Upon receipt of the required data from AACOG, two equations employed in estimating patient days and admissions to

short-term general hospitals in the San Antonio SMSA were used:

$$PD = P\{291.7244(BP) + .4952(HP) - 30.6790(HH) + 10.5^*\}$$

and

$$ADM = P\{1.0645[11.612(BP) + 41.23 \log_e(BP)] + 38.9266(UR) - .00056(HI)\}$$

where

PD = patient days
P = population in thousands
BP = beds per thousand population
HP = average hospital size
HH = average household size
ADM = admissions
UR = ratio of urban population to total population
HI = household income

*Area specific constant for the San Antonio SMSA.

1. San Antonio SMSA Comparisons, Guadalupe and Bexar Counties.

Year	No. Beds	Patient Days	Admissions	Source
1965	2,319	573,852	95,261	State plan
	2,095	584,730	82,406	Guide issue
	2,122	591,721	94,391	Regression estimate
1966	2,574	559,475	86,572	State plan
	2,341	615,156	84,787	Guide issue
	2,275	641,529	99,125	Regression estimate
1967	2,747	624,482	92,076	State plan
	2,305	690,905	93,539	Guide issue
	2,285	651,213	100,067	Regression estimate
1968	2,946	726,032	100,365	State plan
	2,669	820,566	94,599	Guide issue
	2,826	828,214	114,964	Regression estimate
1969	2,725	669,133	104,286	State plan
	2,708	813,649	94,442	Guide issue
	2,715	778,382	111,659	AACOG*
	2,715	800,408	112,764	Regression estimate
1970	3,327	831,444	110,795	State plan
	2,789	856,158	108,827	Guide issue
	2,738	845,259	113,940	AACOG*
	2,738	812,853	114,020	Regression estimate
1971	4,015	836,989	122,817	State plan
	3,479	933,904	115,875	Guide issue
	2,873	839,231	120,887	AACOG*
	2,873	845,278	118,094	Regression estimate

*Special tabulation by AACOG.

The historical comparisons are shown in Fig 1. State plan statistics were furnished by AACOG; *Hospitals, Journal of the American Hospital Association* guide issue statistics from HRPU files; and beds data used for determining the regression estimates from a report by AACOG. There is a discrepancy in the state plan and guide issue statistics in all likelihood caused by different definitions, methods, and dates concerned with reporting. They are reported to illustrate the difficulties of validating the regression equations.

Particular attention was given to the AACOG data in 1969, 1970, and 1971, in validating the equations for San Antonio since AACOG placed the highest confidence in those statistics. In the validation to historical data for the years 1969, 1970, and 1971, the largest difference between the regression equation estimates and the AACOG data is approximately a 4% error in patient days for 1970. The average error for patient days and admissions estimates in those three years are −0.3% and +0.4%, respectively.

The patient days statistics attributed to the guide issue in Fig 1 were derived from occupancy and bed statistics. The 1972 guide issue and the 1973 state plan, both of which contain 1971 data, include beds which were neither available nor used in 1971; thus the large variation in beds shown in Fig 1 for 1971. Additionally for Santa Rosa Medical Center, the 1972 guide issue includes statistics for Villa Rosa, a mental facility, which are included in neither the state plan nor AACOG's tabulation for short-term general hospitals. This accounts for the discrepancy in patient days in 1971.

Occupancy for the seven-year period (1965-1971) ranged from: 57.1 to 68.5, state plan*, 72.1 to 84.1, guide issue; 78.5 to 84.9, AACOG (years 1969-1971); and 76.4 to 81.4, regression estimate. Length of stay varied from: 6.01 to 7.51, state plan; 7.09 to 8.66, guide issue; 6.94 to 7.43, AACOG (years 1969-71); and 6.28 to 7.50, regression estimate.

Fig 2 shows a set of predictions based upon the state plan projections of bed need which was furnished in a special report by AACOG. Bed projections in Fig 2 were derived from published state plans through 1977 and thereafter by using the methodology described in the 1972 state plan. As this article was being prepared, the 1973 state plan became available in draft form. Therefore, the 1978 bed projection in Fig 2 differs from the 4,443 reported in the 1973 state plan; however, the impact of the results in Fig 2 are unchanged.

The spread in percent occupancy and length of stay (LOS) for the 1960s has already been pointed out. Since an occupancy of 80% with a LOS of 7.0 days is considered reasonable (it is within the range experienced in the 1960s), Fig 3 will demonstrate what occupancy can be expected if the LOS is retained at 7.0 days.

If the nationally as well as locally indicated recent trend in LOS occurs—ie, a shortening of LOS to 6.0 days—the occupancy can be expected to decrease to less than 60%. If the practice of outpatient surgery and outpatient medical care continues to grow (indications are that it will), further reduction in the number of patient days as well as admissions can be anticipated.

The committed bed expansion for the San Antonio metropolitan area is 3,755 in 1976 (AACOG data source). The predictions are shown in Fig 4. Those predictions concern aggregate data from the San Antonio Standard Metropolitan Statistical Area and pertain to each hospital and type of service provided, only as these facilities or services are included in the area totals. Boards of trustees of hospitals and administrators will be able to make a judgment of their future plans, but should consider the effect of competition for admissions by all of the other hospitals in the area. There are implications of interest to taxpayers who support a part of the hospital system because the aggregate of admissions includes those produced by the indigent population.

This study was undertaken with the realization that these trends in medical care with their economic implications are becoming evident to all concerned. However, no accurate scientifically devised methods for measuring the trends had been applied nor had one been available. With the experience gained by the HRPU in applying recognized scientific techniques used in other industries, a prediction of the workload that hospitals may expect for the short term, mid term, and long term has been made available to the governing bodies of hospitals, areawide planners, and others concerned with providing medical care.

2. Projections for San Antonio SMSA, Guadalupe and Bexar Counties, based on Texas State Plan.

Year	Beds	Admissions	Patient Days
1972	3,190	126,903	934,037
1973	3,425	133,508	1,003,733
1974	3,490	135,888	1,019,322
1975	3,585	139,031	1,050,933
1976	3,815	145,391	1,119,402
1977	4,307	157,700	1,271,837
1978	4,562	164,432	1,355,126
1979	4,725	169,101	1,409,309
1980	4,890	173,816	1,464,397
1981	5,060	178,633	1,521,359
1982	5,409	187,328	1,635,723

*The Texas State Plan uses "capacity by survey" as the basis for existing bed inventory; and by the definition used, many of these beds are not in use, thus the seemingly low occupancy.

Year	Beds	Admissions	Patient Days	Occupancy	LOS
1972	3,190	126,903	887,924	76.2	7.0
			761,220	65.5	6.0
1973	3,425	133,508	934,158	74.5	7.0
			800,850	64.0	6.0
1974	3,490	135,888	950,814	74.7	7.0
			815,126	64.0	6.0
1975	3,585	139,031	972,817	74.3	7.0
			833,986	63.6	6.0
1976	3,815	145,391	1,017,338	73.0	7.0
			872,146	62.6	6.0
1977	4,307	157,700	1,103,501	70.2	7.0
			946,001	60.3	6.0
1978	4,562	164,432	1,150,622	69.1	7.0
			986,391	59.2	6.0
1979	4,725	169,101	1,183,306	68.5	7.0
			1,014,405	58.8	6.0
1980	4,890	173,816	1,216,311	68.0	7.0
			1,042,696	58.5	6.0
1981	5,060	178,633	1,250,028	67.6	7.0
			1,071,595	58.0	6.0
1982	5,409	187,328	1,310,896	66.5	7.0
			1,123,768	56.9	6.0

3. Projections using 7.0 and 6.0 LOS with admission projections.

4. Projection using committed bed expansion only.

Year	Beds	Admissions	Patient Days	Occupancy	LOS
1972	3,190	126,903	934,037	80.1	7.36
1973	3,340	131,440	976,356	80.1	7.43
1974	3,540	137,092	1,035,357	80.1	7.55
1975	3,640	140,351	1,068,604	80.4	7.61
1976	3,755	143,969	1,106,844	80.8	7.69
1977	3,755	144,870	1,108,508	80.9	7.65
1978	3,755	145,753	1,110,231	81.0	7.62
1979	3,755	146,625	1,112,015	81.1	7.58
1980	3,755	147,483	1,113,863	81.3	7.55
1981	3,755	148,318	1,115,772	81.4	7.52
1982	3,755	149,167	1,118,109	81.6	7.50

Addendum

It is now evident that nationwide hospital utilization is at a major turning point. The steady climb in patient days per 1,000 population has reached a plateau and may decline. In fact, hospital occupancy rates have declined. It is reasonable to conclude that preventing further overconstruction with the ensuing underutilization of beds should help restrain the rise in inpatient cost.

Accordingly, the AACOG has adopted a moratorium policy on approval of requests for certificates of need for construction of short-term general hospital beds with provisions to approve special requests that provide a specific communitywide benefit.

References

1. Edwards SA: Toward a health services simulator, Second interim report of grant no. HS00314, (March 1), 1972.
2. Ibid.
3. Bohn GA, Moore WS, Dove HG, et al: How many beds? Texas Hospitals 28:11-31, 1972.

Prepared with support by grant number HS00314 from the National Center for Health Services Research and Development and project grant number 06-P-000, 003-02-0, "Alamo Area Comprehensive Health Planning," from the Department of Health, Education and Welfare.

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Diffuse spasm of the esophagus

Paul H. Jordan, Jr., MD; E. H. Longhi, MD

The more common motor disorders of the esophagus include diffuse spasm and achalasia. When these conditions occur in their classical form they are not difficult to differentiate. At other times, these two diseases have characteristics which make it difficult to distinguish one condition from the other. Cineradiographic and manometric studies have been sufficiently standardized and simplified that they can be readily employed in the differential diagnosis. Most cases of diffuse spasm do not require operative treatment. However, if the condition becomes sufficiently severe, it can be treated by operation with a high degree of success. It is also important to recognize the presence of diffuse spasm in patients who are to have hiatal hernia repair for dysphagia that may not have been present before may become manifest and quite disabling after operation.

The esophagus serves as a conduit for the transport of ingested materials from the mouth to the stomach. This function is not satisfactorily performed unless each swallowed bolus is completely evacuated into the stomach. Movement of contents through a normal esophagus depends on a well integrated propulsive wave generated by the act of swallowing that progresses sequentially through the tubular esophagus. In addition, normal functioning of the esophagus requires that the inferior esophageal sphincter relax in anticipation of the bolus and contract after the bolus enters the stomach. If these motor activities of the esophagus are uncoordinated, emptying will be incomplete and, depending on the degree of incoordination, there may be significant symptoms and serious complications.

Studies of esophageal motility have identified a variety of abnormal motor patterns, many of which can be classified into two main groups: (1) those characterized by hypomotility, such as esophageal achalasia, and (2) those characterized by hypermotility, including diffuse spasm. Although these two motor patterns usually can be distinguished from each other, it is no longer believed that all patients with these two patterns can be fitted into molds representing two distinct entities.[1] Actually it is sometimes difficult to distinguish achalasia from idiopathic diffuse spasms and transition from diffuse spasm to achalasia has been reported.[2] It has even been reported that the esophagus, in some patients with symptomatic idiopathic diffuse spasm, is hypersensitive to parasympathomimetic drugs thus demonstrating Cannon's law of denervation, once thought to be a distinguishing feature between achalasia and diffuse spasm.[3]

Clinical Features

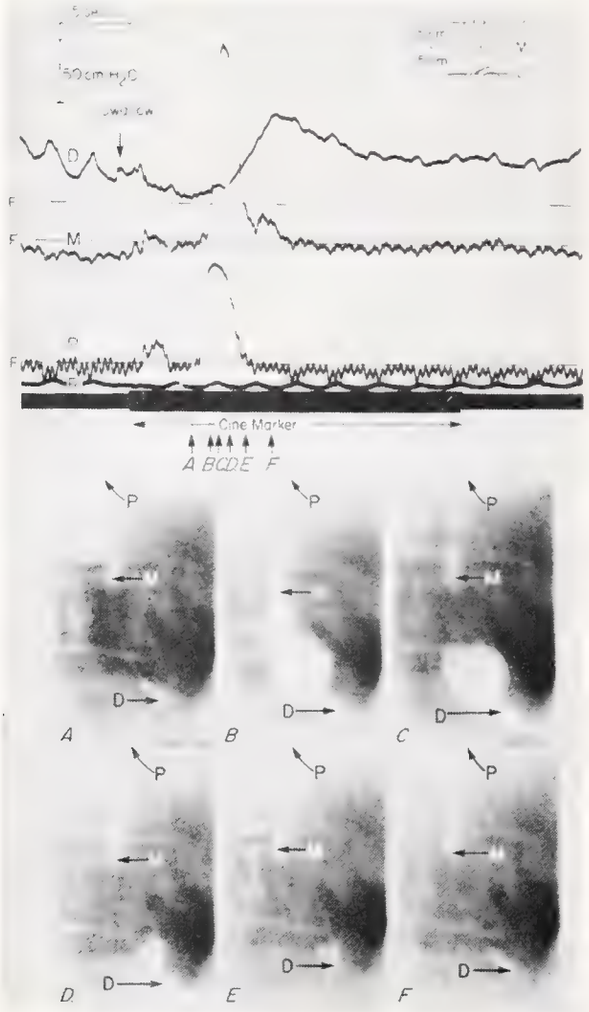
Diffuse Spasm: The severity of symptoms in patients with diffuse spasm varies from occasional symptoms which are little more than a cause for irritation and social embarrassment to a disease in which work is impossible. The pain usually is described as a gripping sensation behind the lower third of the sternum which on occasion radiates up to the neck, often being confused with pain of cardiac origin. The pain usually is associated with dysphagia but may occur spontaneously, particularly during periods of emotional stress.

Roentgenographic examination may reveal distortion of the lower one-half or one-third of the esophagus characterized by spasm and nonpropulsive synchronous muscular contractions. Variations of spasm may range from simple narrowing, to segmental spasm, to extreme changes of pseudodiverticulosis with segmentation of the esophagus into pockets, producing a

beaded appearance. Roentgenograms often show evidence of thickening of the esophageal musculature, a small diaphragmatic sliding hiatal hernia, and the coexistence of an epiphrenic diverticulum. Very little of the ingested material is retained in the esophagus; the bulk is moved into the stomach or vomited.

Achalasia: The motor disorder commonly encountered that may be confused with diffuse spasm is achalasia. This lesion may occur at any age. The earliest symptom of achalasia is due to obstruction of the swallowed bolus in the distal esophagus. At first this may be intermittent; however, as the condition progresses, there is difficulty with all efforts to swallow. More difficulty is experienced with cold than with warm foods; solids may at first seem to pass more easily than do liquids. Pain is infrequent and becomes less noticeable as the esophagus dilates. Regurgitation is a common complaint, particularly at night in the supine position. This is most noticeable in the later stages of the disease when decompensation has taken place. Retention within the esophagus can be massive without vomiting.

1. Simultaneous manometric and cineradiographic records made during the act of a normal swallow.



The earliest roentgenographic signs of esophageal achalasia are those of obstruction at the esophagogastric junction and slight dilatation of the esophagus above the obstruction. As the disease progresses, the esophagus becomes dilated and tortuous and retention of ingested material is greater. The lower portion of the lumen appears conical and narrowed for a short distance producing a beaklike extension directed into the narrowed segment.

Motility Studies

Many times, roentgenograms demonstrate failure of the bolus to pass progressively through the esophagus, yet it is not possible to determine the nature of the motor disorder present. Other patients may have clinical symptoms of dysphagia or odynophagia, but demonstrate no roentgenographic abnormalities. These situations emphasize the necessity of studying both the roentgenograms and the motility tracings, preferably recorded simultaneously, and to consider the results in terms of the patient's symptoms.

We have reported previously[4] a technique for performing cineradiography and manometric measurements of the esophagus simultaneously. This technique permits correlation of any cine frame with the manometric tracing made at the same time. Pressure changes can thus be interpreted in terms of their significance for the movement of barium through the esophagus. All of our tracings were made with previously described miniature transducers

although they can be made equally satisfactorily with polyethylene tubes constantly perfused with water.

First, the cineradiographic and manometric studies of an esophagus that empties normally are presented to provide a basis for comparing the abnormal function observed in the patients who demonstrate incomplete emptying of the esophagus.

Studies of Normal Emptying

Simultaneous Cine-Manometric Studies of Normal Emptying (Fig 1): In Fig 1 and the following illustrations, fundic pressure is represented by F and respiration by R. "Cine marker" indicates the period when the cine and pressure tracings were recorded simultaneously. Lettered vertical arrows represent the exact times with respect to the manometric tracing that the cine frames (with corresponding letters in their left lower corners) were taken. The line drawings in the upper right corner indicate the location of the pressure transducers.

In the study of this patient, three transducers spaced 5 cm apart were used. The proximal (P) and medial (M) transducers were located in the tubular esophagus and the distal (D) transducer at the gastroesophageal sphincter.

Frame A: The esophagus, empty before swallowing, contains barium at the level of the proximal transducer. The sphincter is relaxed in anticipation of the contraction wave which has not reached the level of the proximal or medial transducer.

Frame B: The propulsive esophageal wave reaches its peak at the proximal transducer and the esophagus is free of barium in this area. Pressure at the medial transducer begins to increase sharply, pushing the barium ahead of the contraction wave.

Frame C: Pressure at the proximal transducer begins to subside while that at the medial transducer reaches its peak. The esophagus is empty in the area of the medial transducer, barium having been pushed into the ampulla.

Frame D: Most of the barium has been pushed into the stomach, only a small amount remaining in the ampulla and in the area of the gastroesophageal sphincter (D). Pressure at the medial transducer is subsiding but is still greater than that at the sphincter which is increasing.

Frame E: Virtually all barium is in the stomach. Pressure at the proximal transducer now equals the resting pressure. Pressure at the medial transducer is falling rapidly and equals the pressure in the sphincter which is increasing sharply.

Frame F: The esophagus is completely empty and pressure at the sphincter reaches its maximum.

Comment: In normal patients, esophageal contents are completely emptied into the stomach by a wave of strong, short-lasting, sequential contractions that push the esophageal contents before the advancing wave. As the contents reach the distal end of the esophagus, they are pushed into the stomach through the gastroesophageal sphincter that began to relax in anticipation of the bolus as soon as swallowing was initiated. Evacuation of the distal end of the esophagus is completed as the advancing contraction wave reaches the sphincter. Here the contractions are less powerful but more prolonged than in the case of contractions of the tubular esophagus. A resting sphincter pressure above the gastric pressure provides a gastroesophageal barrier against reflux of the stomach contents into the esophagus.

Achalasia

A 58-year-old man complained of progressive dysphagia for several years, and of reflux of material into his mouth when he

was in a supine position. Esophagoscopy revealed no evidence of stricture or tumor. The following studies demonstrated achalasia.

Simultaneous Cine-Manometric Study of a Barium Swallow (Fig 2)
Frame A: Barium within the esophagus is retained from a previous swallow. The barium swallow represented by this sequence results in some relaxation of the sphincter, although it is not normal. An increase in esophageal pressure above the proximal transducer pushes the barium into the ampullary region and a small amount trickles through the sphincter during expiration.

Frames B and C: Flow of barium into the stomach resulting from contraction at the proximal transducers is cut off by increased sphincter pressure during inspiration.

Frame D: During expiration, pressure in the sphincter falls slightly below the pressure in the esophagus, permitting some additional barium to pass through the sphincter. At the same time, there is also retrograde flow from the ampulla into the tubular esophagus.

Frames E and F: Reduced pressure in the tubular esophagus and increased pressure in the sphincter results in retained barium in the esophagus. At no time during the sequence is the esophageal wave sufficiently strong to completely obliterate the esophageal lumen.

2. Achalasia. While some barium enters the stomach, the esophagus is incompletely emptied because of inadequate sphincter relaxation and tubular contractions.

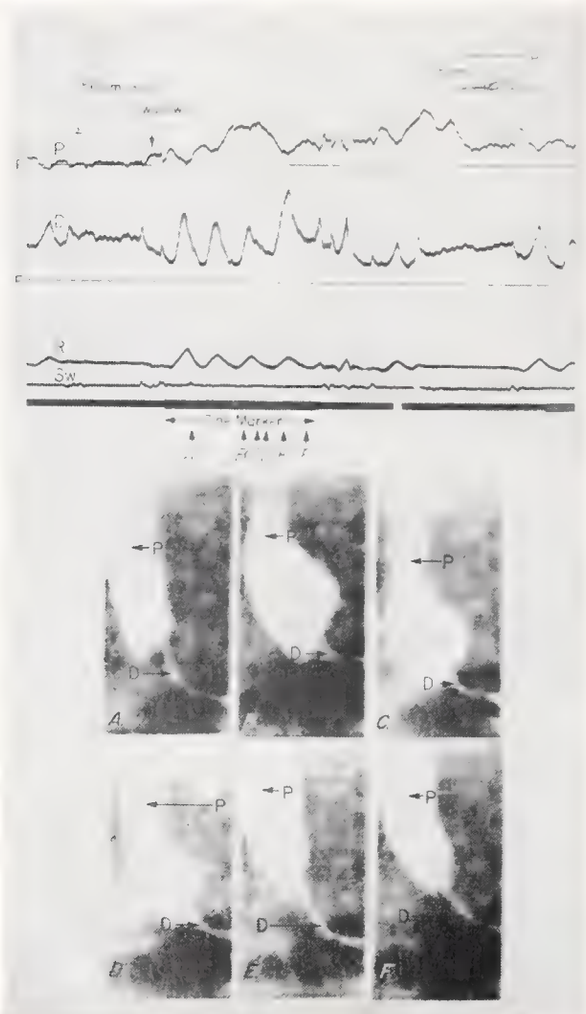


Fig 3: Superimposition of Pressure Tracings in Fig 2
In Fig 3, the base lines for the two motor tracings have been superimposed so that one can readily appreciate the pressure differences in the two tracings. The numbered vertical columns divide the manometric tracings into the motor events responsible for movement of barium within the esophagus. Pressures recorded by the proximal transducer (P) are represented by a continuous line, and those from the distal transducer (D) by a dotted line.

In column 1, retained barium from a previous swallow is in the esophagus. Pressure in the tubular esophagus begins to rise as that in the sphincter drops slightly during the expiration. In column 2, barium is pushed down by an abnormally sluggish esophageal wave and in column 3, with esophageal pressure above sphincter pressure for a brief period during expiration, a small amount of barium flows through the sphincter. In column 4, the flow of barium into the stomach is cut off during inspiration when sphincter pressure rises above that in the esophagus. Again in column 5 during expiration, some

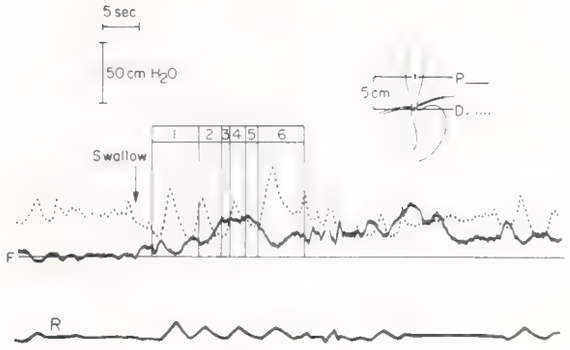
flow into the stomach occurs because the pressure in the tubular esophagus is slightly higher than that in the sphincter. In column 6, disappearance of the shallow esophageal wave and increased sphincter pressure prevents further flow of barium into the stomach and results in retention of the greatest portion of the bolus within the esophagus.

Comment: In this case the esophagus has the nonpropulsive, disorganized motor characteristics of achalasia. Partial emptying of the esophagus still occurs as a result of its repetitive, synchronous contractions but only when the pressure in the ampulla exceeds that in the sphincter. The incomplete emptying of the esophagus is not only the result of weak, uncoordinated, and sometimes absent contractions of the tubular esophagus, but also of inadequate receptive relaxation of the normally located sphincter. Although sphincter relaxation occurs with some swallows, often there is no relaxation and seldom is the tone in this area equal to or less than that in the stomach. Frequently changes in sphincter pressure result from inspiration and expiration and are sufficient to either inhibit or permit incomplete passage of esophageal contents. Injection of 5 mg of acetyl-beta-methylcholine (Mecholyl) increased the baseline pressure in the tubular esophagus of this patient. Although a positive mecholyl test result such as this is not pathognomonic of achalasia, it provides evidence that supports the diagnosis.

Diffuse Spasm

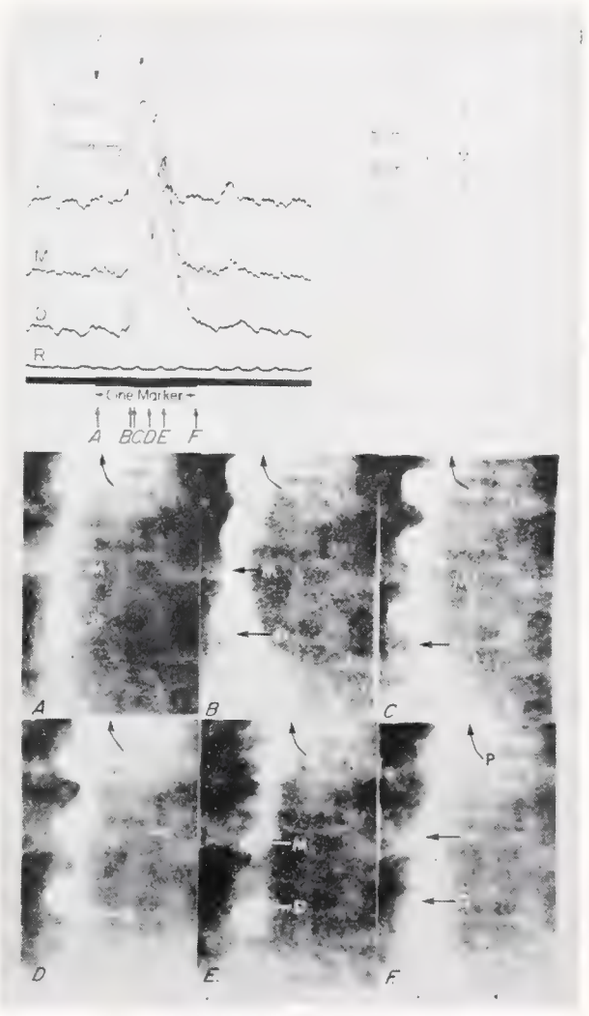
A 58-year-old man had dysphagia, odynophagia and occasionally substernal pain unassociated with swallowing. His cardiac evaluation was negative.

Simultaneous Cine-Manometric Sequence of a Barium Swallow with the Patient Standing (Fig 4)
Frame A: The distal esophagus contains residual barium from a previous swallow. Barium, just swallowed, is beginning to enter the upper end of this segment of esophagus. The resting pressure in this segment of the esophagus was elevated.



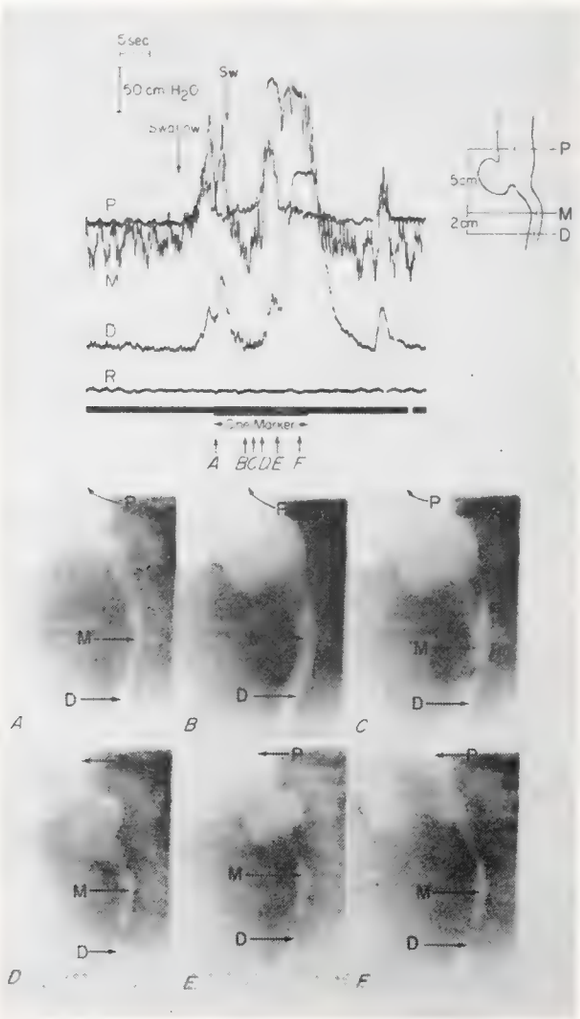
3. Achalasia. Superimposition of pressure tracings seen in Fig 2. Failure of sphincter pressure (dotted line) to fall below esophageal pressure (solid line) accounts for the unsatisfactory emptying of the esophagus.

4. Diffuse spasm. Synchronous, high-pressure contractions of the circular muscle in diffuse spasm may cause this picture, which has been given a variety of names including pseudodiverticulosis.



Frames B, C, D, E: There are simultaneous or synchronous contractions throughout the distal third of the esophagus. The resulting pressure waves are also characteristic of diffuse spasm because of their prolongation and their repetitive nature. Since the force of the contractions at the proximal transducer is less than that at the medial and distal transducer, barium fails to pass normally through the esophagus and inferior sphincter into the stomach. Barium retained between the areas of high pressure produce a picture of pseudodiverticuli.

5. Diffuse spasm. Incomplete emptying of the esophagus in a patient with diffuse spasm is the result of synchronous contractions of the distal tubular esophagus that are repetitive, of prolonged duration and of increased pressure.



Frame F: All pressures have returned to their preswallowing resting level and retained barium becomes evenly distributed in the esophagus.

A second patient was a 73-year-old male whose chief complaint was dysphagia and weight loss for three months.

Simultaneous Cine-Manometric Study of a Barium Swallow in a Standing Position (Fig 5)

Frame A: The distal esophagus is contracted demonstrating a narrow segment containing barium from a previous swallow. Above the narrowed segment is a dilatation filled with barium. It represents a diverticulum which not uncommonly accompanies diffuse spasm.

Frames B and C: Pressure in the narrowed segment is reduced and swallowed barium progresses through the narrowed segment.

Frames D, E and F: Pressure in the narrowed segment is greatly increased simultaneously at both the M and D transducers blocking the continuous flow of barium. The esophagus fails to empty and a configuration of a diverticulum is seen in frame F. Without careful cineradiography and motility studies, routine roentgenograms of this patient might well be confused with achalasia.

Fig 6: Simultaneous Cine-Manometric Study of the Same Patient as in Fig 5:
In addition to the high pressure segment seen in Fig 5, a small hiatus hernia, not uncommon in diffuse spasm, is also seen. Of particular interest in this patient is the relaxation of the sphincter recorded in frames B through E with the M transducer. Sphincter relaxation is evidence against achalasia and supports the diagnosis of diffuse spasm. In frame F the sphincter pressure rebounded to an excessive level which was maintained for a prolonged period. This prolonged overshoot after relaxation of the sphincter has been termed the hypercontracting sphincter, and prob-

ably represents a variant of idiopathic diffuse spasm.

Comment: Typical cases of achalasia and idiopathic diffuse spasm usually present no problem in diagnosis even though their etiology is not understood. There are, however, atypical cases which cause diagnostic difficulties. In addition, there are several conditions such as aperistalsis and delayed opening of the lower esophageal sphincter, vigorous achalasia, and other neuromuscular disorders which defy classification. There is a variety of motor disorders of the esophagus, and it might be unwise to attempt to fit all cases into the tight classification of typical diffuse spasm or achalasia. In fact, the similar response of the esophagus to parasympathomimetic drugs in some cases of symptomatic diffuse spasm and achalasia suggests that these two disorders may be related.

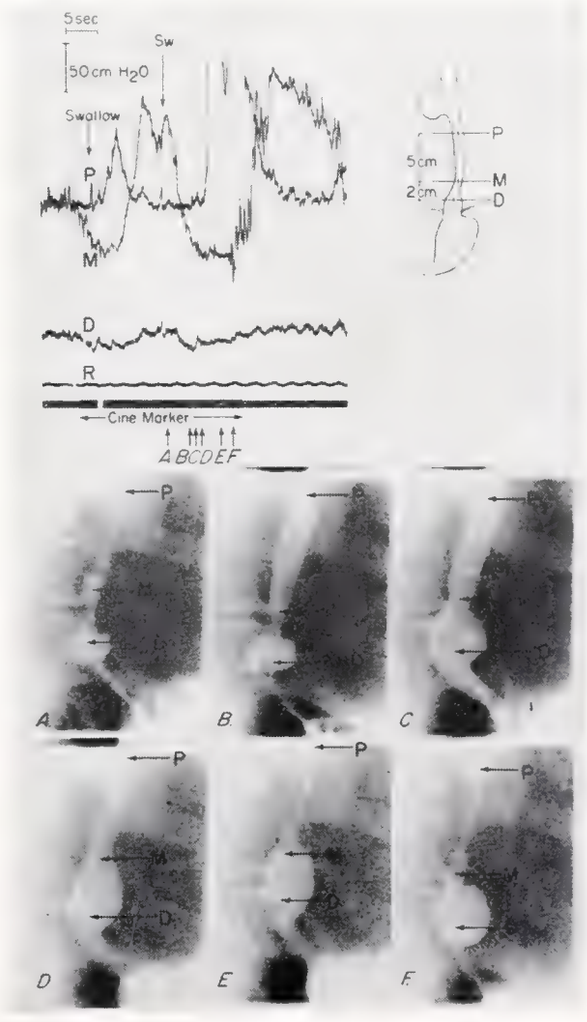
Surgery

We have operated in the past eight years on four patients out of a much larger group who had symptoms, roentgenographic findings, and motility patterns of diffuse spasm. Each of the four patients had been severely affected with the classical symptoms of diffuse spasm for longer than two years. Pain and dysphagia had progressed during the time that they were treated medically. They were severely incapacitated, unable to work, and were afraid to eat for fear of experiencing severe pain. Weight loss was present in each case.

At operation there was usually muscular hypertrophy of the portion of the esophagus involved, and in one case this was in excess of 1 cm. Surgical treatment consisted of cardiomyotomy as performed for achalasia except that the incision was extended up the esophagus as far as necessary to include all of the esophagus known to be involved on the basis of preoperative studies or pathological findings. This may necessitate extending the myotomy as far as the border of the aortic arch. The edge of the muscle wall was dissected from the underlying mucosa to permit the latter to protrude between the two longitudinal cut edges of muscle.

The operation was completed by repairing the hiatal hernia if one was present. We have done this by performing a Nissen or Belsey type of plication procedure. This was done with a size 40 French dilator in the esophagus in order to avoid constricting the esophageal lumen. We have performed a plication procedure even in the absence of a hernia in order to prevent regurgitation and esophagitis, which is prone to develop after section of the inferior esophageal sphincter.

6. Diffuse spasm. A variant of diffuse spasm is the hypercontracting sphincter, recognized by a prolonged overshoot in pressure after its relaxation.



Discussion and Conclusion

The symptoms of diffuse spasm of the esophagus correlate well with periods of increased intra-esophageal pressure during which time synchronous contraction waves replace peristalsis. On the other hand, it is not uncommon to find patients with characteristic motility or roentgenographic evidence of diffuse spasm, or both, who have no accompanying symptoms. Nevertheless, it is important to recognize the existence of this disorder, particularly in patients who are to undergo hiatal hernia repair. Dysphagia that may not have been present before may become manifest and quite disabling after operation.

By means of simultaneous cineradiography and manometric studies, supplemented by radiology, esophagoscopy, and appropriate cardiac evaluation it is possible to distinguish cases of diffuse spasm from achalasia, carcinoma of the esophagus, angina pectoris, and uncomplicated hiatal hernia. Cineradiographic and manometric studies considered in conjunction with the clinical history provide the key to determining the severity of the disease and the treatment to be instituted. The majority of patients with evidence for diffuse spasm may be managed conservatively by prescribing proper diet, reducing the stressful circumstances under which they eat, and by providing instructions to eat slowly and to chew food thoroughly.

The symptoms of achalasia and of diffuse spasm differ significantly. Achalasia is associated with constant, painless, obstruction; retention of swallowed food in a dilated esophagus; low pressure synchronous muscular fibrillation of the tubular esophagus, and failure of the gastroesophageal sphincter to relax properly with swallowing. Diffuse spasm, on the other hand, is marked by intermittent, painful, dysphagia; a nondilated esophagus without retention of food; and a motility pattern showing high-pressure, synchronous and repetitive esophageal contractions. At operation, patients with achalasia have a dilated and hypertrophied esophagus tapering toward the hiatus, whereas patients with diffuse spasm have a diffusely hypertrophied esophagus which may extend from a traction type hiatus hernia below to the aortic arch above.

Many believe that achalasia and diffuse spasm are distinct entities with identifying characteristics for each. There is some evidence, however, that the two conditions are different manifestations of the same disease process. It has been suggested that diffuse spasm is followed by the dilatation and paresis of achalasia when the ganglia in the esophageal wall are destroyed eventually by progressive disease. As yet the etiology of the two diseases is not firmly established and until this has been determined it would appear that stringent efforts to fit all patients with motor disorders of the esophagus into a tight mold of either classic achalasia or diffuse spasm should be avoided.

References

1. Bennett JR, Hendrix TR: Diffuse esophageal spasm: a disorder with more than one cause. Gastroenterol 59:273-279, 1970.

2. Kramer P, Harris LD, Donaldson RM, Jr: Transition from symptomatic diffuse spasm to cardiospasm. Gut 8:115-119, 1967.

3. Kramer P, Fleshler B, McNally E, et al: Oesophageal sensitivity to mecholyl in symptomatic diffuse spasm. Gut 8:120-127, 1967.

4. Jordan PH, Jr, Longhi EH: Diagnosis and treatment of an esophageal stricture (ring) in a patient with Barrett's epithelium. Ann Surg 169:355-363, 1969.

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Cytomegalic inclusion disease

PEDIATRIC GRAND ROUNDS

The cytomegaloviruses have emerged recently as an important group of pathogens capable of producing disease throughout life. The ubiquitous nature of these viruses may demonstrate a spectrum ranging from an asymptomatic carrier state to full-blown disease with even a fatal outcome. The clinical syndromes and the direction of future investigations are discussed.

Dr. Martha Yow, Director, Infectious Disease Section, Baylor: In recent years the importance of cytomegaloviruses (CMV) has been recognized. The epidemiology is being clarified, and there are increasing numbers of articles dealing with these infections (approximately 75 in 1970 alone).

The CMVs are members of the herpesvirus family. The pathology which is produced by this group of viruses was first identified in the early 1900s and was called salivary gland disease. For the past 16 years these viruses have been grown in tissue culture. Early in the course of study of CMV disease, it was thought that this disease was limited to infants and was universally fatal. It is now known that these infections are ubiquitous, occur in all age groups, and may range from virtually asymptomatic situations to full-blown expression (and even lethal disease). Dr. South will present a case which manifests the problems in congenital CMV disease.

Dr. Mary Ann South, Infectious Disease Section, Baylor: The first baby with CMV disease, which I will describe, had a normal prenatal history and birth weight, but soon several abnormal manifestations developed—first, jaundice, followed by petechiae and a platelet count that revealed thrombocytopenia. He had hepatosplenomegaly which was progressive and reached huge proportions. Funduscopic examination revealed chorioretinitis; that is, a salt and pepper type of appearance of the retina. With these manifestations, it became apparent that he had some form of congenital viral infection. We were able to culture CMV from his leukocytes and urine. The thrombocytopenia continued into the fourth month and then spontaneously resolved. In addition to petechiae, this infant had another "rash" that has been called cutis marmorata, which is just a mottled appearance and is a manifestation of vasomotor instability.

At the beginning this child had trouble with vomiting and various other nonspecific manifestations characteristic of sick neonates. The jaundice cleared in three months; the hepatosplenomegaly progressed during the first year. At age 2 years he still had hepatosplenomegaly, but by age 2½ years this had completely regressed. The outstanding manifestations of his disease were the neurological signs and symptoms. Motor, social, and language development were all retarded. He had transient ataxia, unlike subsequent babies that we are following. He is now 4½ years old, the ataxia has improved, and he can walk, run, and talk in short sentences. At present he has a developmental level of 18-20 months. Although irritability was excessive the first few months of life, he is now a fairly happy child. He has temper tantrums, but his behavior is otherwise normal with the exception of development.

When we evaluated the virus excretion, the leukocyte culture for CMV became negative when the patient was 3 months old, but the urine culture currently continues to be positive. Of all the children that we have followed in our clinic (11 to date) each has continued to excrete the virus. All of these children have been symptomatic; we have not had the opportunity to follow

the asymptomatic patients. At a few months of age, patients' blood cultures have reverted to negative, in spite of positive urine cultures. All patients have had an immune workup and none have manifested any sign of immune deficiency. All have had a positive serum CMV antibody titer even in the presence of continued virus excretion. The patient presented today followed this pattern with a CMV antibody titer of 1:320, which is a very adequate titer.

Dr. Mintz: Did he have cerebral calcifications?

Dr. South: No. He continues to have chorioretinitis with scarring, but this does not appear to interfere with his vision. Spinal fluid findings have repeatedly been normal.

Question: Does he have microcephaly?

Dr. South: No, although he does have some brain damage. Some of our other patients do have microcephaly and this, together with the cerebral calcification, is supposed to be a classic manifestation.

Dr. Larry Taber, Infectious Disease Section, Baylor: Did he have an EEG very early in life and was it abnormal?

Dr. South: This patient's first EEG was at about 2 months of age and has been repeated yearly; these have all been normal.

Question: Has the patient had seizures?

Dr. South: There are no seizures in this child; of course, we have had other children who have had seizures.

Dr. Taber: The second patient we would like to present represents a group who may reactivate latent virus, or it may be that they acquire CMV because of an immunosuppressed state. There was a 14-year-old boy who, in March of 1972, was diagnosed as having idiopathic thrombocytopenic purpura. A splenectomy was performed and he was started on steroids and did very well. His platelet count improved and his petechial lesions cleared; however, each time his physician tried to lower the steroid dose, the patient would again become thrombocytopenic. In May of 1972, fever, cough, and pleuritic chest pain developed. His physician heard some rales in the lungs and began treatment with penicillin. The patient did not respond. The pleuritic chest pain continued along with cough and fever, so the drug therapy was changed to tetracycline. The boy still did not respond. A chest x-ray was obtained and it showed a diffuse, interstitial type of pneumonia. At this time, the patient was admitted to the hospital and an open lung biopsy was performed. The histology showed *Pneumocystis carinii*. He was started on pentamidine and the x-ray showed some resolution of the interstitial pneumonia; however, steroids were continued at a higher dosage. During this hospitalization he developed purulent sputum and the chest x-ray showed his condition to be worse. The sputum now grew a pure culture of *Pseudomonas*, and the patient was treated with gentamicin. The *Pseudomonas* was eradicated but the interstitial pneumonia became progressively worse. Finally the boy became extremely hypoxic and was transferred to Methodist Hospital so that he could be treated with the membrane oxygenator. At that time, someone reviewed the original slides of his lung biopsy and noted that the cells were filled with inclusions. Inclusions in cells are the hallmark

of infection due to the herpesvirus group. It was thought that these inclusions probably represented infection with CMV. Cultures were obtained from various sites and CMV grew from the blood, the urine, and subsequently from the lung. It also grew from a specimen obtained by tracheal aspiration. The patient was started on a chemotherapeutic drug (adenine arabinoside) which is being used on a trial basis for the treatment of CMV infection, but before we could evaluate the efficacy of the drug, the patient died.

With the two cases we presented as background, Dr. Yow will now present a general discussion of CMV.

Dr. Yow: The incidence of CMV colonization in the newborn is not rare. There are about 4 million births a year in the United States. Of these, at least 40,000 babies are born shedding CMV, that is, 1 in every 100 live births. That is not to say that they are all having any expression of the disease at the time of birth; in fact, 90% of them are asymptomatic. This does not mean that they will not become symptomatic later in life. One in every 1,000 has mental retardation, so that there are about 4,000 infants per year in the US born with mental retardation due to CMV.

Wentworth and her associates in Seattle studied the incidence of several of the herpesviruses in various age groups. This study was performed in a middle socioeconomic group and it shows a later acquisition of the virus than do those studies which have been conducted in the lower socioeconomic group. In Wentworth's experience, by the time people are 60 years of age, a high percentage in the upper socioeconomic group have CMV antibody. However, the Seattle studies demonstrated that many young women in the childbearing age were susceptible to a primary attack of CMV. It is well known that young primagravidas are more likely to bear children with CMV infection than older multiparous women. We are not certain of the implications but it is likely that there is a large group of young women in the upper economic bracket who are susceptible to CMV, at least they show no evidence serologically of having had a previous experience with CMV.

Next, let us consider the route of transmission. Weller suggested that the sources of primary infection are as follows: In the prenatal period the child can acquire CMV transplacentally or by intrauterine transfusion from his mother. Perinatally the infant can acquire it from the mother's cervical secretions, just as he can herpesvirus type II. The mother has the virus in the cervix, and as the baby is passing through the birth canal he becomes colonized with the virus. Weller suggests that after the perinatal period the baby, in the first year of life, can acquire the disease in the following manner: contact with the mother who is shedding CMV in the urine, or from siblings who are shedding the virus in the urine or from saliva. It is also present in the colostrum of breast milk. It is questionable whether or not CMV is passed in the feces and in tears. Another way in which a newborn or young infant could acquire the disease is iatrogenically by blood transfusions, particularly if there has been an exchange transfusion. It can also be acquired by organ transplantation.

There are different antigenic types of CMV, so there is a possibility that a patient could have CMV disease several times due to different types. CMV may also be reactivated following an alteration in immunity, or by altered physiologic mechanisms such as pregnancy. Secondly, natural decay of

immunologic competency may initiate reactivation of infection. Concurrent debilitating disease such as malignancy affects cellular immunity. Lymphoma is a classical example of a disease which can reactivate a latent cytomegalovirus infection.

The epidemiology of acquired disease in relationship to pregnant women merits attention. Conversion from a negative to positive complement fixation test result occurs in something like 2 to 5.6% of pregnant women. Pregnancy also reactivates latent cytomegalovirus infection. In women who have a positive complement fixation titer at the time they become pregnant (therefore have had the infection in the past), 0 to 2% have positive cervical cultures in the first trimester. In the second trimester, the incidence rises to approximately 8-10%, depending on the population being studied. The pregnant woman may also begin to shed the virus in her urine. By the third trimester, 15-28% have CMV in the cervical secretions. This is an important route of infant acquisition of the virus.

There are some articles on spontaneous abortion from which a high percent of abortuses have CMV in the viscera. This is one aspect that needs further study. It is now known that a woman can bear two children consecutively who are infected with CMV. There is one classical case in the literature where there was only a one-month interval between delivery and a second pregnancy, and this mother had two children with CMV disease. The first was so severely affected that it died within the first few months of life; the second is shedding the virus, but after 15 months is not symptomatic.

The next portion of discussion is diagnosis of CMV infection. Obviously, the best way to diagnose it is by virus isolation, which is also the most expensive. We could diagnose 1% of all the babies born in this hospital as shedding CMV if we studied urine specimens, but obviously that is impractical. We should obtain cultures from babies who have hepatosplenomegaly or other classical symptoms of CMV infection. The complement fixation test is standard (not ideal, but least expensive), and if performed in a good laboratory, it is fairly reliable. Neutralization is a good test; however, it is expensive and is not generally available. The specific anticytomegalovirus IgM test is discussed in the literature, but it needs further exploration. Cytology should be mentioned only to be condemned. The patient sheds giant inclusion-bearing cells in the urine intermittently. There may be showers of the cells shed and then no more again for several weeks; whereas, viruria is a constant daily finding. Also one may have a false-positive result employing cytology. Other viruses may cause inclusion-bearing cells in the urine. In any tissue biopsy, such as the lung, inclusion-bearing cells are important, however, urine cytology is not a reliable test.

In regard to control, we have been lax about babies who are shedding the herpesviruses, including CMV. In the past decade, we have learned that we should not put the rubella babies in the room with susceptible hosts. It is now recommended that an infant who is known to be shedding CMV be isolated while in the nursery. Another important aspect of control is that all young women who are to care for CMV-infected infants should have baseline serologic tests performed. If the results are positive, then it is probably safe for them to work with CMV-infected babies.

The questions which remain to be answered are:

What is the incidence of primary or reactivated CMV infection in pregnant females in all socioeconomic groups and in various geographic areas?

What is the risk of infant infection in relation to maternal infection?

Is maternal infection a significant cause of fetal wastage?

What is the relationship of the degree of infant involvement to the gestational time of maternal infection?

What is the fate of the asymptomatic congenitally infected infant?

What is the risk of infants' acquiring infection in passage through the birth canal?

Is infection acquired in passage through the birth canal sufficiently serious to indicate delivery by cesarean section when the mother is known to have CMV in high titer in the cervical secretions?

How does this virus persist in an immune competent host?

Can a vaccine be developed for prevention of this complex type of virus infection, and what is the efficacy and toxicity of available chemotherapeutic agents?

In summary, our knowledge of CMV infections is about at the same level as that of rubella infections a decade ago. Within the next few years answers to these questions need to be obtained.

Dr. Blattner: Historically, it is of some interest to remember that in the early 1930s we knew very little about virus infections. At Boston University, it was observed that children who came to autopsy with history of a pertussis-like illness often had inclusion-bearing cells in the epithelium of the lung. Smith, at Boston University, became interested in the inclusion-bearing cells which were observed in the parotid gland of children who died of any cause. At that time, she insisted that every child who came to autopsy have the parotid gland removed. About 15-20% of all children who came to autopsy, for whatever cause, had a significant number of inclusion-bearing cells in the parotid gland. As time went on, it was also discovered that different species had their own salivary gland virus which we now recognize as cytomegalovirus, which is immunologically distinct from the human strain. With tissue culture techniques it became possible to grow the salivary gland cells and thus isolate the virus from the parotid of human subjects. This was the humble beginning of study of what is now considered one of the most important viruses in medicine.

Dr. Mintz: Dr. Taber, would you discuss our present status of treatment?

Dr. Taber: We are using two drugs to treat patients who have an infection with one of the viruses of the herpes group. One drug is cytosine arabinoside, which was developed as a chemotherapeutic agent for various malignancies; is very toxic; it suppresses immunity and bone marrow. We hesitate to use this drug in a patient who already has a low platelet or white blood cell count. There is a similar drug, adenine arabinoside (Ara A). This drug is apparently effective against the herpes group of viruses and it does not have, in the dosage presently used, the toxic effects of cytosine arabinoside. We are trying to evaluate its efficacy in patients with these infections, particularly immunosuppressed patients with the herpes virus group infections.

Dr. Blattner: Viruses are obligate intracellular parasites. They become an intimate part of the host cell, and require the vital pro-

cesses of the cell for growth and replication. Treatment involves alteration of the cell which makes the cellular milieu unfavorable for virus growth and replication. Such a change is difficult to achieve without injury to the host. Much new work needs to be done in this therapeutic area.

Dr. South: There are several problems associated with developing a vaccine for this agent. The first one is that it is a cell-associated virus; it is difficult to separate the virus from the cell.Such a vaccine would therefore contain cells. This virus will grow only in human cells, therefore, this would constitute immunization against human tissues. Also, at this point, it would be dangerous to give a live virus vaccine to a pregnant woman. The dead virus vaccines are much less effective in producing immunity. At present, there is little hope for an effective program of immunization.

From the Department of Pediatrics, Dr. Russell J. Blattner, Professor and Chairman, Baylor College of Medicine, Houston 77025.

Other participants are Drs. A. A. Mintz, Guest Editor; and Martha Yow, Mary Ann South, and Larry Taber, all of Baylor's Infectious Disease Section.

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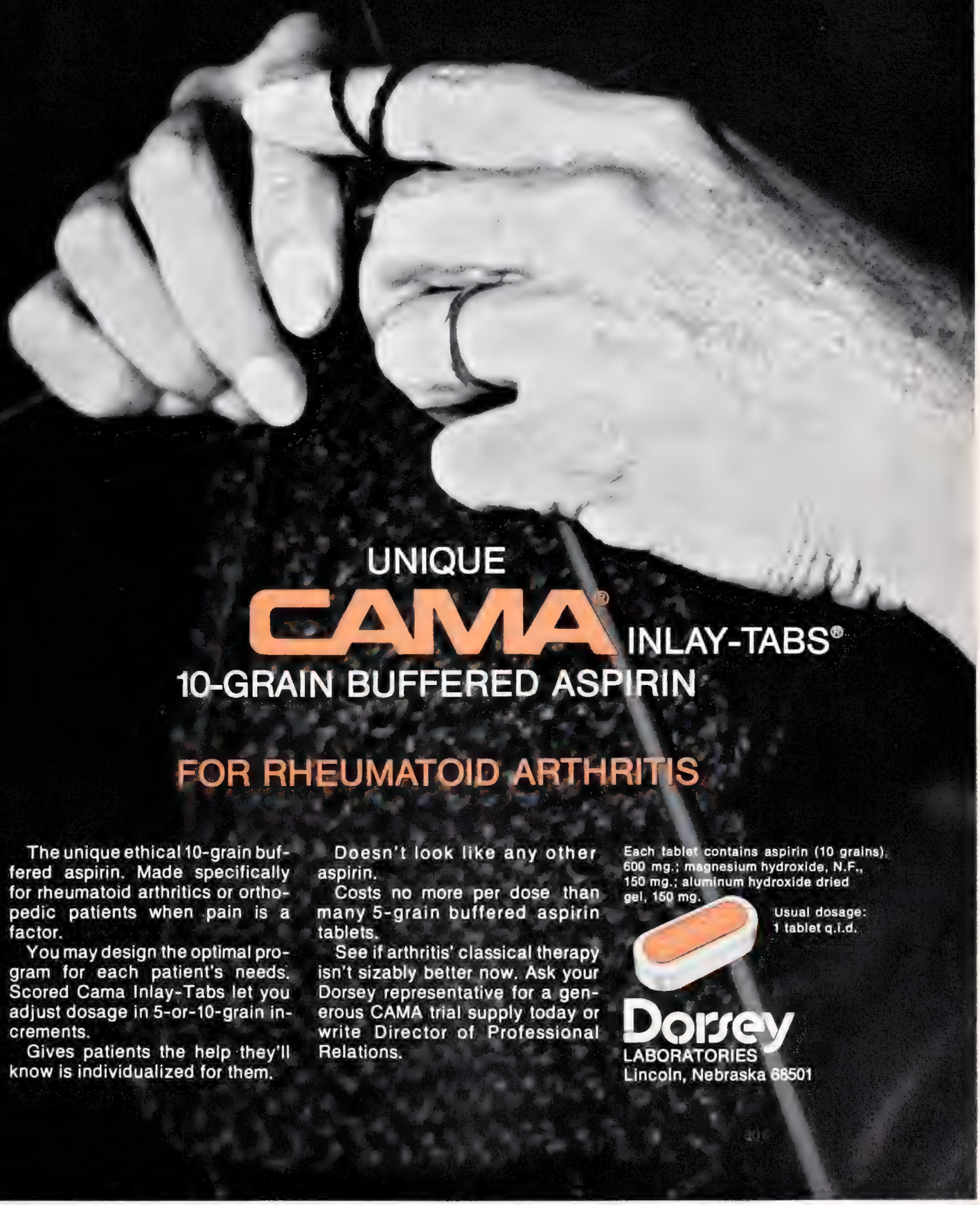

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Medical manpower in Texas: the challenge

by C. Lincoln Williston, executive secretary, TMA

There is a need for more doctors to render direct medical care.

One of the most difficult challenges of our time is medical manpower.

It should be acknowledged that there is a need for more physicians in Texas. Not only do we have a need for more physicians, but there are problems related to geographical distribution. There are also challenges relating to the types of activities in which physicians are engaged. Specifically, there is a need for more doctors to render direct medical services, and to engage in the specialties of primary patient care.

The great need for more physicians has been caused by several factors—growth in population, an increased demand for medical services, greater access to care through financing by the federal government, and higher utilization of services.

We live in a state which is experiencing dynamic growth. The population of Texas has increased from 8½ million in 1960 to more than 11 million in 1970. By 1985, the projected census will reach 14¾ million, and Texas will become the nation's third most populous state, behind California and New York.

Contributing to the demand are great increases in the expectations of the population. People today expect better housing, education, environmental conditions, food, and transportation. Similarly, we are witnessing an increased demand by a more sophisticated public for a greater amount of medical care.

This public demand for medical services has been further whetted by the federal government through the establishment of many new programs, particularly Medicare and Medicaid. The government is paying at least part of the cost of medical care for one out of every four persons in Texas.

Medicare is underwriting a good portion of medical costs for a million people. More than 700,000 are receiving even more comprehensive benefits through Medicaid. The federal employees health insurance program provides coverage for 450,000 civil service workers and their dependents. Another 360,000 Texans have medical care costs paid by CHAMPUS. The utilization of all of these programs continues to rise. Under Medicare, for example, patients are hospitalized at twice the rate as the general population and they remain in the hospital about 90% longer.

THE NATIONAL SCENE

There are 345,000 physicians in the United States today. Of that number, 287,000 are engaged in direct patient care, and 198,000 are office-based.

Each year, more physicians are educated and trained. There are now 113 medical schools in the United States, and they graduated more than 9,500 doctors last year—twice the number who received degrees at the end of World War II. The nation's production also is being swelled by graduates of foreign medical schools. One of every five physicians in the country is a graduate of a foreign school.

Appraising the manpower challenge, there are encouraging factors and some that offer concern. On the plus side, it is comforting to know that America has increased its physician

output by 3% during each of the past 10 years. By comparison, population has been growing by only 1% per year.

While this trend is encouraging, the fact that only 10% of new medical graduates are choosing to enter into general or family practice is reason for concern. Eighty percent of graduates during the past 10 years have entered into specialties; the remaining 10% have gone into teaching or research.

It appears that the problem of maldistribution will be with us for quite some time. About 10 years ago, the President of the United States stated that this country needed 50,000 more physicians. Some say that this figure now has been reduced to 8,000. But even if we could command a sudden infusion of all doctors that are needed, shortages still would exist in inner cities and rural areas. The realistic appraisal is that those areas have too few physicians for exactly the same reasons that they have too few attorneys, architects, and clergymen. These reasons, of course, are social, cultural, and environmental.

TEXAS

The picture is not too different in Texas. The state remains a land of opportunity for young physicians. There are many choices available for doctors who are completing training and for those who wish to relocate. The greatest demand is in the fields of primary care—general practice, internal medicine, pediatrics, and obstetrics and gynecology.

The Texas Medical Association has just completed a series of manpower surveys. These studies show that there are 13,000 non-federal physicians in Texas. They are serving 11,200,000 Texans—a ratio of one physician for every 861 people. This is considerably less favorable than the national ratio of 1 to 674. Unfortunately, Texas ranks last among the 10 largest states in the ratio of physicians to population.

In addition, a significant number of Texas physicians are not engaged in private patient care. There are almost 2,000 federal doctors in Texas. More than 10% of the state's 13,000 non-federal physicians do not provide direct patient care. Many of them are engaged in teaching and research.

Moreover, more physicians than ever before are seeking opportunities in administration. Public and voluntary agencies, and business and industry are recruiting doctors. They are siphoning off some physicians who have been providing direct medical services. Some doctors who have worked abnormally long hours in the past, and many young physicians entering practice understandably are seeking more moderate practice schedules. These factors add to the number needed to meet the increased demand for patient care.

TMA's state survey has documented a great need for more primary care physicians. Unfortunately, the number of family physicians has been decreasing steadily for many years. Texas presently has 2,775 office-based general practitioners. They represent 24% of the non-federal doctors in the state, a drop of 18 percentage points in the last 8 years. The ratio of general practitioners to population is now one

It appears that the problem of maldistribution will be with us for some time.

to 3,650. The American Academy of Family Practice has stated that the desired ratio is 1 to 2,000.
Using these figures as a base, Texas could absorb more than 2,500 family physicians.

SPECIALTIES

TMA consistently receives more requests for internists than for any other specialty except general practice.

There is also little comfort in the number of internists. The state has one for every 8,865 persons. Here again, Texas ranks last among the 10 most populous states. The national ratio is one internist for every 5,490 people.
Like other specialties, the geographical distribution of internists offers some concern. Almost half are located in Houston and Dallas.
From these figures, we have concluded that Texas has a clear need for more internists. Though ratios obviously are not an exact indicator, the state needs 776 more internists to achieve the national average. The fact that TMA consistently receives more requests for internists than for any other specialty except family practice is further documentation of this need.
TMA studies also show that the state needs 400 more obstetricians and 190 more pediatricians. The supply of most other specialties appears to be adequate at this time.

RURAL AREAS

Physicians are locating in the more populated counties of the state at a higher rate than the actual migration of the general population, leaving a gap in the small communities and rural areas. The least favorable physician to population ratios in Texas are found in the Panhandle and East Texas. There are 23 counties in this state with no MD. There are two counties—Carson in West Texas, and San Jacinto in East Texas—with more than 5,000 people each and with no physician. The ratio of physician to population in 37 East Texas counties is one to 1,348; in West Texas, it is 1 to 1,220.

Reasons for the shortage of physicians in rural areas are quite apparent. Rural practice is characterized by long hours and generally does not afford the physician adequate time for his family, for relaxation and recreation, and for continuing professional education. In choosing a location, many young physicians are reluctant to give up the resources and facilities of medical centers in which they have been trained. In its placement work, TMA has also found that it is sometimes the spouse, rather than the physician himself, who is unwilling to live in a smaller community.
TMA has been making a great effort over the years to endeavor to ease shortages in rural areas. Rapport with community leaders has been established in hundreds of small towns. We have gained insight into their needs, and the attractiveness of those communities. At the same time, most community leaders acknowledge that good patient care requires more than merely having a doctor in town. They recognize that they also need adequate hospital and clinic facilities, nurses, technologists, and other allied health personnel. More important, they know that they must make their town a good place to live, and that they must share the responsibility of recruiting health professionals.
As a positive suggestion, the Texas Medical Association is asking communities to select promising young men and women and to encourage them to pursue careers in the medical and allied health fields. The Association is urging them to provide scholarships and loan funds in return for voluntary commitments to return to those communities.

WHAT'S BEING DONE

Texas is doing something about the need for more physicians. There have been many significant developments during the past few years. Much of the credit rightfully belongs to the

medical schools, to the leaders of our medical societies, and to state officials.

In just a few years, the number of Texas medical schools has doubled from three to six. The University of Texas Medical Branch at Galveston, Baylor College of Medicine in Houston, and the University of Texas Southwestern Medical School in Dallas have long been recognized as outstanding institutions. They are to be commended for increasing the size of their classes.

The three new schools are starting to take their places in the Texas sun. The University of Texas Medical School at San Antonio has graduated three classes. The University of Texas Medical School at Houston began operations in 1971. Texas Tech University School of Medicine in Lubbock has enrolled classes in the junior and freshman years.

With these developments, it is estimated that the total first-year enrollment of medical students in Texas will rise from 516 in 1970 to 1,044 in 1975. By 1980, Texas schools should be graduating more than 1,000 doctors a year, for an increase of more than 100%.

This is only half the story. TMA is continuing its recruiting to attract young physicians from other states. These efforts are proving to be productive. Last year, the state of Texas licensed more than 1,000 new physicians for the first time. Even with increased education programs, however, it is significant that only about 40% of the new physicians have been educated in Texas schools.

THE CHALLENGE

Nevertheless, two important challenges remain. As our survey has shown, there is a great need for more family physicians, internists, pediatricians, and obstetricians. There is a second challenge to encourage more physicians to locate in areas where they are acutely needed—small communities, rural areas, and the underprivileged pockets of urban areas.

The state's medical schools and the teaching hospitals must place greater emphasis on training physicians in primary care. They must create more places for residency training programs in family practice and in internal medicine. It is encouraging to know that five new family practice residency programs have just been established.

We also can be encouraged by developments in medical manpower in the past few years. We really believe that Texas is doing more than any other state to educate, to train and to attract more doctors. The future supply of physicians promises to be adequate to meet the needs of this state. At the same time, we acknowledge that Texas must train more primary care physicians and to encourage them to locate in areas where they are most needed.

Only by meeting these challenges can we fulfill our pledge to make the best medical care possible available for the people of Texas.

We believe that Texas is doing more than any other state to educate, train and attract more doctors.

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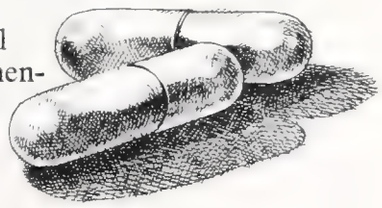

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Precautions: In elderly and debilitated, limit dosage to smallest effective amount to preclude development of ataxia, oversedation or confusion (not more than two capsules per day initially; increase gradually as needed and tolerated). Though generally not recommended, if combination therapy with other psychotropics seems indicated, carefully consider individual pharmacologic effects, particularly in use of potentiating drugs such as MAO inhibitors and phenothiazines. Observe usual precautions in presence of impaired renal or hepatic function. Paradoxical reactions (*e.g.*, excitement, stimulation and acute rage) have been reported in psychiatric patients. Employ usual precautions in treatment of anxiety states with evidence of impending depression; suicidal tendencies may be present and protective measures necessary. Variable effects on blood coagulation have been reported very rarely in patients receiving the drug and oral anticoagulants; causal relationship has not been established clinically.

Adverse Reactions: No side effects or manifestations not seen with either compound alone have been reported with Librax. When chlordiazepoxide hydrochloride is used alone, drowsiness, ataxia and confusion may occur, especially in the elderly and debilitated. These are reversible in most instances by proper dosage adjustment, but are also occasionally observed at the lower dosage ranges. In a few instances syncope has been reported. Also encountered are isolated instances of skin eruptions, edema, minor menstrual irregularities, nausea and constipation, extrapyramidal symptoms, increased and decreased libido—all infrequent and generally controlled with dosage reduction; changes in EEG patterns (low-voltage fast activity) may appear during and after treatment; blood dyscrasias (including agranulocytosis), jaundice and hepatic dysfunction have been reported occasionally with chlordiazepoxide hydrochloride, making periodic blood counts and liver function tests advisable during protracted therapy. Adverse effects reported with Librax are typical of anticholinergic agents, *i.e.*, dryness of mouth, blurring of vision, urinary hesitancy and constipation. Constipation has occurred most often when Librax therapy is combined with other spasmolytics and/or low residue diets.

ROCHE

Roche Laboratories
Division of Hoffmann-La Roche Inc.
Nutley, New Jersey 07110

The changing face of Texas Medicine

The majority of space in the March, 1923 issue of the *Texas State Journal of Medicine* (now *Texas Medicine*) was taken up by an account of the final passage of amendments to the Medical Practice Act, and a reproduction of the text of the debates which occurred over the bill in the Texas House and Senate.

The bill, which proscribed the practice of medicine without a license, was amended to allow for criminal prosecution of those who violated its provisions. Amendments were added to exempt Christian Scientists and optometrists from the scope of the legislation, but only after long debate. Some of the more interesting remarks made during the debate are included below.

Senator Fairchild, commenting on a proposal to disallow anyone but licensed druggists and physicians from selling drugs: "These men [traveling salesmen, "medicine show" salesmen] only sell what is in the bottles; the labels tell plainly what it is. What if he does black up like a negro and play the banjo? I will never forget the first one I ever heard. He was selling some kind of stuff in bottles. I thought that was the best music I had ever heard. We bought some of that medicine and it cured the best horse we ever had in less than a week."

Sen. McMillin of Grayson: "Now Gentlemen of the Senate, if this bill passes granting these extraordinary privileges to this favored class, I want to say here and now that I shall certainly favor a bill regulating the prices they are charging to-day [sic] All of you know the prices they are charging are three or four times greater than they were ten years ago. If you grant them these special priviliges the prices will be still greater."

Sen. Grayson again: "I asked their [the state medical association] attorney as to his interpretation of this law. He said all the applicants had to understand all the "ologies," and a lot of other stuff, and then if they could pass the medical examination prescribed,they would be allowed to practice medicine in any manner, shape or form that they desired."

Sen. Turner: "I have no confidence in chiropractors . . . Men who have been failures in the world, who haven't got the backbone to succeed, but go from one thing to another, finally go off and make chiropractors of themselves. If this thing keeps on the whole country will be practicing chiropractic, because it can be mastered in from six to twelve months, while it takes five years to qualify to practice medicine.

"Who has made every discovery in medicine that has been made? It is the doctor, the regular, who has conquered yellow fever and has almost conquered typhoid fever and pneumonia. Very few of the thousands of boys who were in the army died from either disease. They are doing good for the world and for humanity."

The debate sounds rather familiar, and even the humor of the 1923 Texas Legislature wasn't so very different. Before the Christian Scientists were exempted from the bill, a senator introduced an amendment requiring examination on "the efficiency, mode, and manner of prayer."

dvertisement

"The history of science, and in particular the history of medicine...is... the history of man's reactions to the truth, the history of the gradual revelation of truth, the history of the gradual liberation of our minds from darkness and prejudice."

–George Sarton, from "The History of Medicine Versus the History of Art"

Are there significant differences in bioavailability and clinical predictability among drug products?

Opinion

Results of a questionnaire to 7,000 physicians:

44.6%
Agree there is a significant difference

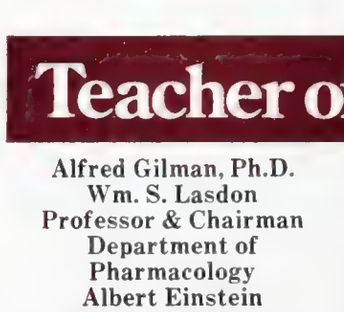
24.9%
Believe there is no difference

30.5%
Had no opinion

Are there significant differences in bioavailability and clinical predictability among drug products?

Teacher of Medicine

Alfred Gilman, Ph.D.
Wm. S. Lasdon
Professor & Chairman
Department of
Pharmacology
Albert Einstein
College of Medicine of
Yeshiva University



I think that there can be a very great distinction between generic drugs and brand name drugs. And that applies to products of original research that have outlived their patent protection as well as to drugs that have long been in the public domain. Let me explain why.

The Importance of the Manufacturing Environment

In terms of formulation, quality control, and the ability to reproduce an essentially identical product, batch after batch, I doubt that many firms are properly equipped to put out a product that is as carefully controlled as the product marketed by a pharmaceutical company with sophisticated research and high quality manufacturing facilities. For example, when a company comes out with its own preparation of a drug that has just lost its patent protection, there is no assurance that the drug it produces will be a therapeutic equivalent. The raw material could be identical and yet bioavailability might vary from complete unavailability to that which is equivalent to the original.

It Isn't Enough to Meet USP and NF Standards

Meeting USP and NF standards is not enough to guarantee therapeutic equivalence. In certain instances, stricter standards must be applied. Right now, the New York Heart Association has a committee that is studying the problem of digoxin equivalency. I am certain that they are going to recommend a bioavailability assay of a particular digoxin. Unless this is done, they will not recommend it for purchase or use in New York City hospitals. It represents too much of a hazard. They have gone so far as to recommend a batch-by-batch certification of bioavailability even though the company has been reproducing and marketing a digoxin product through the years.

The Problem of Controlling Bioavailability of Generics

The FDA does not have the manpower to inspect the quality control capabilities of hundreds of houses specializing in generic products. And I don't think that the average pharmacist is knowledgeable or aware of the quality and bioavailability of the infinite numbers of generic preparations. A recommendation has been made that every time a generic house (or for that matter a large pharmaceutical company) markets an already existing drug for the first time, a modified new drug application should be submitted. The manufacturer would have to show that his compound is the therapeutic equivalent of the standard compound in use, assuming that the standard compound is one that has been available for an extended period—say 15 years. This would be one indication that the control of bioavailability is beginning to get the attention that it deserves.

Clinical Predictability More Important Than Price

Although the question of price has been greatly exaggerated, it is true that patients can on occasion save money on generic drugs. But you are not going to dare attempt to save money if it jeopardizes the patient's health. Let's return to the example that has become very prominent in recent years, that of the cardiac glycosides. They are probably the most toxic drugs we use with respect to the small difference between a maximally effective dose and a toxic dose. When you are dealing with drugs of this type, the first concern must be clinical predictability. At the risk of variations in bioavailability, it would be sheer folly to try to save the patient what might amount to maybe $10 or $20 a year. The physician cannot manage his patient unless he is sure that the drug he is prescribing has the same positive effect each time the prescription is renewed. This is especially significant when the patient takes the product, not for months but for the rest of his life.

Maker of Medicine

C. J. Cavallito, Ph.D.
Executive Vice President
Ayerst Laboratories

Although equivalence of different preparations of a *drug substance* may be defined by certain physical, chemical or biological characteristics, identity is not always assured even though these characteristics may be described in compendia such as the USP, NF or defined by other specific source standards. Moreover, even with equivalent drug substances, similar pharmaceutical *products* can be produced by different manufacturers such that these products are biologically or therapeutically inequivalent.

A Growing Awareness of Potential for Nonequivalence

As experience increases with drug substances derived from different sources and under different conditions, it should be possible to establish specifications in sufficient detail to minimize the potential for their nonequivalence. However, there is general agreement that product therapeutic equivalence would still not be assured even if one could minimize nonequivalence of drug components produced by different manufacturers. Arguments relate largely to the extent of product inequivalences. Experience over the past six years has uncovered a greater incidence of nonequivalence of products prepared by different manufacturers from generically equivalent substances than many had previously surmised.

Newer Bioavailability Studies Reveal Differences

Bioavailability may be defined as a measure of the rate and amount of absorption of a drug substance from its administered dosage form. For several years pharmaceutical scientists have proposed that bioavailability data on presumably equivalent dosage forms provide the best measure of product equivalence—short of adequate clinical trial. In their continued search for shortcuts to the evaluation of product equivalence, medical and pharmaceutical scientists have increasingly relied upon bioavailability characteristics as reflected by blood levels of a drug after its administration to human subjects.

Leading manufacturers now conduct comparative bioavailability studies on their own product dosage forms after production process changes that would have been considered inconsequential a few years ago. This isn't surprising, since there are so many possible differences in production operations that the opportunities for inequivalent generic and brand name products are numerous—even when the production process begins with identical chemical substances. Moreover, reputable manufacturers are striving to improve *in vitro* control measures, such as dissolution characteristics, which are being related more meaningfully to bioavailability reference data.

As a result of advances in scientific instrumentation and analytical methodology which permit measurements of small quantities of drug substances in the body, our abilities to detect differences in bioavailability and possible therapeutic nonequivalance have appreciably improved.

Product Selection Based on Patient Response

Improved specifications and standards can better assure the equivalence of *drug substances.* Manufacturers, compendia and regulatory agencies can all play a part. However, it is the *drug product,* not the *drug substance,* that the physician, pharmacist, nurse and patient-customer utilize. How can these individuals make or influence specific product selections to minimize variations in therapeutic equivalence of multisource drugs? Patients' responses to a drug product provide a basis of experience to aid the physician in his selection of a particular product. The nurse and pharmacist can also help detect patient responses, but ultimate responsibility must remain with the physician.

Reputation of Manufacturer as Basis for Product Selection

The physician, to assure that his patients receive quality health care, must rely upon the capabilities of the reputable pharmaceutical manufacturer who is equipped to develop, prepare and control a quality product of uniform, reliable therapeutic performance. Substitution with purportedly equivalent generic products that are only superficially evaluated by an imitator manufacturer can place the health of the patient secondary to factors of price or convenience for the provider.

Opinion & Dialogue

What is your opinion, doctor?
We would welcome your comments.

P·M·A

The Pharmaceutical Manufacturers Association
1155 Fifteenth Street, N.W., Washington, D.C. 20005

MINOCIN® made the difference in just eight days.*

Clinical Data:
Patient: 47-year-old male.
Diagnosis: Severe pyoderma, left hand.
Culture: *Staphylococcus aureus, coagulase* positive and sensitive to MINOCIN.
Temperature: 102° F
Therapy: MINOCIN Minocycline HCl Capsules, 100 mg: 200 mg *stat,* 100 mg every 12 hours. Medication began 9/7/71. By fourth day, temperature was normal and pustular lesions considerably improved. Last dose taken 9/14/71.
Concomitant therapy: None.†

Semisynthetic
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Capsules, 100 mg: 2 *stat,* 1 q 12 h.

Indications: For the treatment of susceptible infections; *e.g., E. coli, D. pneumoniae.* For full list of approved indications consult labeling.
Contraindications: Hypersensitivity to any tetracycline.
Warnings: The use of tetracyclines during tooth development (last half of pregnancy, infancy and childhood to the age of 8 years) may cause permanent discoloration of the teeth (yellow-gray-brown). This is more common during long-term use but has been observed following repeated short-term courses. Enamel hypoplasia has also been reported. Tetracyclines, therefore, should not be used in this age group unless other drugs are not likely to be effective or are contraindicated. In renal impairment, usual doses may lead to excessive accumulation and liver toxicity. Under such conditions, use lower total doses, and, in prolonged therapy, determine serum levels. Photosensitivity manifested by an exaggerated sunburn reaction has also been observed in some individuals taking tetracyclines. Advise patients apt to be exposed to direct sunlight or ultraviolet light that such reaction can occur, and discontinue treatment at first evidence of skin erythema. Studies to date indicate that photosensitivity does not occur with MINOCIN Minocycline HCl. In patients with significantly impaired renal function, the antianabolic action of tetracycline may cause an increase in BUN, leading to azotemia, hyperphosphatemia, and acidosis. CNS side effects (lightheadedness, dizziness, vertigo) have been reported, may disappear during therapy, and always disappear rapidly when drug is discontinued. Caution patients who experience these symptoms about driving vehicles or using hazardous machinery while taking this drug. *Pregnancy:* In animal studies, tetracyclines cross the placenta, are found in fetal tissues, and can have toxic effects on the developing fetus (often related to retardation of skeletal development). Embryotoxicity has been noted in animals treated early in pregnancy. Safety of use during human pregnancy has not been established. *Newborns, infants and children:* All tetracyclines form a stable calcium complex in any bone-forming tissue. Prematures, given oral doses of 25 mg./kg. every 6 hours, demonstrated a decrease in fibula growth rate, reversible when drug was discontinued. Tetracyclines are present in the milk of lactating women who are taking a drug of this class.

Precautions: Use may result in overgrowth of nonsusceptible organisms, including fungi. If superinfection occurs, institute appropriate therapy. In venereal diseases when coexistent syphilis is suspected, darkfield examination should be done before treatment is started and blood serology repeated monthly for at least four months. Because tetracyclines have been shown to depress plasma prothrombin activity, patients on anticoagulant therapy may require downward adjustment of such dosage. Test for organ system dysfunction (*e.g.,* renal, hepatic and hemopoietic) in long-term use. Treat all Group A beta hemolytic streptococcal infections for at least 10 days. Avoid giving tetracycline in conjunction with penicillin.

Adverse Reaction: GI: (with both oral and parenteral use): anorexia, nausea, vomiting, diarrhea, glossitis, dysphagia, enterocolitis, inflammatory lesions (with monilial overgrowth) in anogenital region. *Skin:* maculopapular and erythematous rashes. Exfoliative dermatitis (uncommon). Photosensitivity is discussed above ("Warnings"). *Renal toxicity:* rise in BUN, dose-related (see "Warnings"). *Hypersensitivity reactions:* urticaria, angioneurotic edema, anaphylaxis, anaphylactoid purpura, pericarditis, exacerbation of systemic lupus erythematosus. In young infants, bulging fontanels have been reported following full therapeutic dosage, disappearing rapidly when drug was discontinued. *Blood:* hemolytic anemia, thrombocytopenia, neutropenia, eosinophilia. *CNS:* (see "Warnings.") When given in high doses, tetracyclines may produce brown-black microscopic discoloration of thyroid glands; no abnormalities of thyroid function studies are known to occur.

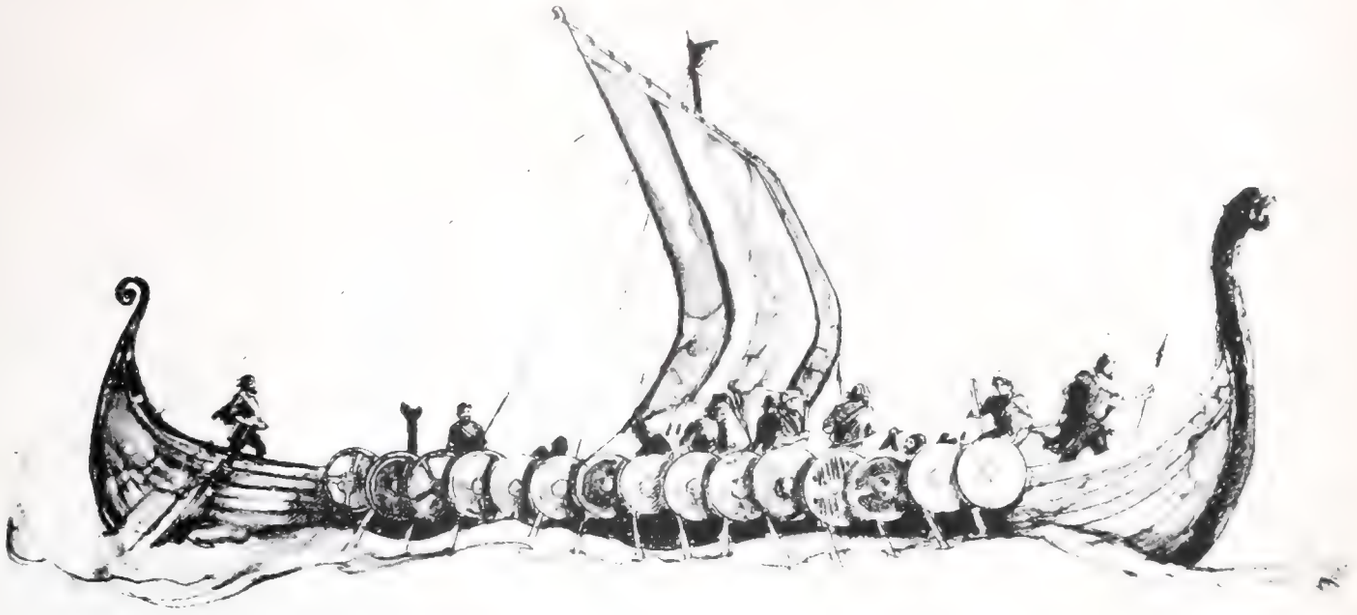
NOTE: Concomitant therapy: Antacids containing aluminum, calcium, or magnesium impair absorption; do not give to patients taking oral minocycline. Studies to date indicate that absorption of MINOCIN is not notably influenced by foods and dairy products.

***Indicated in infections due to susceptible organisms. Culture and sensitivity testing recommended. Tetracylines are not the drugs of choice in the treatment of any staphylococcal infection.**

†Case Report, Clinical Investigation Department, Lederle Laboratories.

Lederle LEDERLE LABORATORIES, A Division of American Cyanamid Company, Pearl River, New York 10965 12-20 436-2

Come To The Land Of The Vikings



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The Detective was a Doctor

The time is 1886. The place a London suburb. A young physician sits staring from his office window at the end of an idle day. His consulting room has been virtually empty since he moved with his family to London. Expenses are high, income is low.

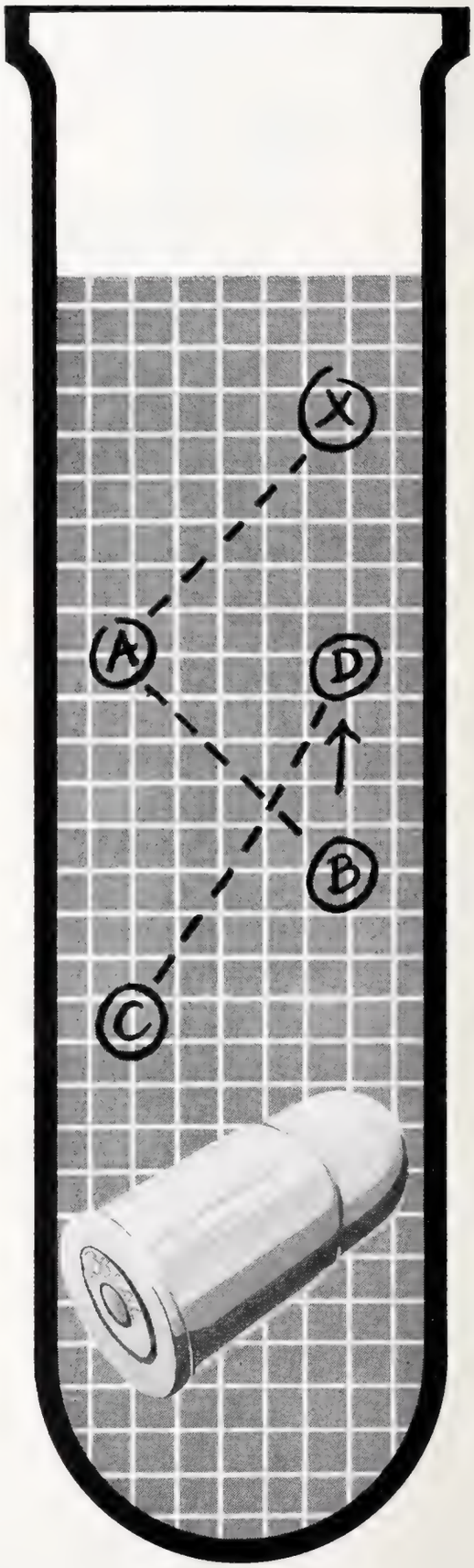
He had fancied himself a writer. Indeed, he had already written one novel, *The Firm of Girdlestone*, but for all the response he had gotten from publishers he might as well have been cultivating geraniums in the garden outside his window.

Arthur Conan Doyle cast his mind back over the past. A practice in Southsea had been equally unsuccessful; his tour as a physician on a whaling ship had been exciting, but no place for a man who loved being with his family.

Like most young men, he had struggled to become a doctor. Now, it seemed, his hopes for security were being dashed again. He remembered the days when he'd been attending the Royal Infirmary in Edinburgh, and how he'd skipped many meals to buy the books he loved. They included adventure stories as well as philosophy; thrillers as well as *belles lettres*.

His old teacher, Joseph Bell, would have made a good character, he thought. Dr. Bell, consulting surgeon to the Infirmary, was indeed a singular man. Loved by his students, but held in awe as well, it was said he could deduce a man's occupation and past history simply by observing him.

He remembered how Bell had astounded students at medical school



time after time with what seemed like mind reading, but really was only super-sensitive powers of observation.

Once, a woman with a small child was shown into the lecture hall. Joe Bell said good morning to her and she said good morning in reply. "What sort of crossing di' ye have fra' Burntisland?" "It was guid." "And had ye a guid walk up Inverleith Row?" "Yes." "And what did ye do with th' orther wain?" "I left him with my sister in Leith." "And would ye still be working at the linoleum factory?" "Yes I am." "You see, gentlemen, when she said good morning to me I noted her Fife accent, and, as you know, the nearest town in Fife is Burntisland. You noticed the red clay on the edges of the soles of her shoes, and the only such clay within twenty miles of Edinburgh is in the Botanical Gardens. Inverleigh Row borders the gardens and is her nearest way here from Leith. You observed that the coat she carried over her left arm is too big for the child who is with her, and therefore she set out from home with two children. Finally, she had a dermatitis on the fingers of the right hand which is peculiar to the workers in the linoleum factory at Burntisland."

"If he were a detective," thought Doyle, "he would surely reduce this fascinating but unorganized business into something nearer an exact science. The effect is surely possible in real life, so why should I not make it plausible in fiction? It is all very well to say a man is clever, but the reader wants to see examples of it—such examples as Bell gave us every day in the wards."

The idea of trying to create a fictional Joseph Bell amused the young physician. "What should I call the fellow?" he wondered. "Not something trite like Mr. Sharp or Mr. Ferrett—those kinds of names are overused. Sherringford . . . Sherlock . . . Sherlock Holmes!"

And though Dr. Doyle had no inkling of what the future held, Sherlock Holmes, the fictional side of Dr. Joseph Bell, would lead him far away from the medical life, far away even from the serious writing he fancied. For he had just created the most famous fictional detective the world would ever know, one so well-drawn that many came to believe he was real.

Like Dr. Bell, Holmes exhibited powers of deduction which mystified the ordinary man, but were almost transparent when explained by the master. The wearing of the threads in the knees of a man's trousers, a peculiarly placed callus, a unique piece of jewelry could show Holmes volumes about a person's occupation, while those with lesser powers of observation were left in the dark.

Scientifically, some of Holmes' experiments were a bit dubious, however. Once he nearly killed Watson and himself by testing the effects of a lethal gas by inhaling it. He didn't know much about fingerprints, mentioning them in only one of his adventures, "The Norwood Builder." When Watson met him for the first time, Holmes was at a laboratory searching for a reagent which would precipitate hemoglobin, having just completed an experiment consisting of beating cadavers with a stick to see how long

Sherlock Holmes, the fictional side of Dr. Joseph Bell, was so well-drawn that many came to believe he was real.

R. Austin Freeman, creator of Dr. John Thorndyke, actually tested all the methods his detective used before putting those methods to work in a story.

after death bruises could be produced.

But Holmes-lovers aren't picky about their hero, and these "flaws" passed unnoticed until many years later. Significantly, however, Holmes' early attempts at scientific experimentation did inspire a line of successors who were quite proficient, many of them modeled, as was Holmes, after physicians.

Of all the scientific detectives who flourished during the early part of this century, the methods of Dr. John Thorndyke, as recorded by R. Austin Freeman, were probably the most scientifically sound.

Like Conan Doyle, Freeman modeled his detective after a professor he had had in medical school—Dr. Alfred Swayne Taylor, a specialist in medical jurisprudence.

Dr. Thorndyke, accompanied by his "Watson," Dr. Jervis, and his laboratory assistant Polton, is an expert at piecing together the tiniest bits of evidence to form a conclusion (always correct, of course), as to the cause of a crime.

Freeman emphasizes the *means* of detection in the Thorndyke stories. In many investigations, the doctor uses an insufflator to gather bits of dust, which when analyzed, often give valuable clues.

In one adventure, Thorndyke is called in on what appears to be a case of suicide by drowning. A young man has been found, feet up, in a small pond near an English village. An analysis of the contents of the stomach shows that the victim swallowed large amounts of duckweed, which grew in the pond, as well as several shells belonging to small crustacean inhabitants of the vicinity.

Thorndyke, with his usual detachment, won't take the evidence at face value. Using his knowledge of botany, Thorndyke determines that the plants found in the victim's stomach actually came from a pond several miles from where the dead man was found, indicating that he was transported to the latter site after death. This proves to be true, and the discovery leads police to the murderers.

Though Thorndyke's methods sometimes seem terrifically complicated, his stories are the only ones in which the author actually tested the methods he wrote about before including them in a story. Dr. Freeman had a home laboratory where all Thorndyke's experiments were carefully worked out. In addition, some of Thorndyke's methods were even employed by real-life police.

The scientific craze was just as prevalent in America as in England in popular literature. Americans, however, characteristically tended to prefer more "fireworks." Almost all the detectives used one sort of gadget or another, drifting away from the Holmeseian emphasis on logic and deduction.

Arthur B. Reeve, an author now practically unheard of, wrote about Craig Kennedy, a character said to have been fashioned after a medical adviser to the district attorney of New York, Dr. Otto Schultze. Kennedy was tremendously popular, but one reason he has been forgotten today is because his "science" was the science of the Sunday supplement rather than the laboratory. Kennedy's stock in trade was the lie detector and the

"galvanometer." His over-reliance on gadgets, of course, ultimately caused him to be forgotten.

Another American scientific detective is also little-known today, and unjustly so. Augustus S. F. X. Van Deusen, MD, PHD, LLD, MDS, otherwise known as "The Thinking Machine," was created by newspaperman Jacques Futrelle. Professor Van Deusen, most of whose life was devoted to proving that "two and two equal four, not sometimes, but all the time," was the master of a wide range of subjects, from medicine to mathematics.

Futrelle, a native of Pike County, Georgia, was killed on the *Titanic* in 1912, leaving only two volumes of Thinking Machine stories behind. They are uniformly excellent. Although Van Deusen seldom conducts laboratory experiments like Thorndyke, his deductions are examples of pure scientific logic.

As science and medicine became more and more complicated, however, the scientific trend in popular literature began to die out. Van Deusen and Thorndyke were the last real successors to the scientific heritage left by Holmes only a few years earlier.

By 1930, the "Hardboiled" school of writing had taken over the field, with writers like Dashiell Hamett and Raymond Chandler in the forefront.

Today, of course, television has taken over the field of mass art, and again we see the universal appeal of the scientist and the healer. A program about physicians is almost assured of success. Science fiction follows not far behind.

But in addition, more of a team approach toward medicine and science in general prevails today. There are few Joseph Bells left. Hence, there are few models for unique central characters in fiction.

There once were, though, and on a damp, winter night, there is almost nothing as soothing as to settle back in a big chair, perhaps in front of a fire, and to chase off with Sherlock Holmes and Dr. Watson across the moors of England in a gentler time.

Augustus S.F.X. Van Deusen, MD, PHD, LLD, MDS, was the master of a wide range of scientific subjects, from medicine to mathematics.

Medicine in literature

Communicable and Infectious Diseases, 7th ed. F. H. Top, Sr., and P. F. Wehrle, eds., 803 pp., 186 illus., St. Louis, C. V. Mosby, 1972, $35.

EIGHT NEW CHAPTERS and the work of 56 collaborators make this book both a textbook for medical students and a necessity for the practicing physician and health officer.

New chapters include material on cholera, cryptococcosis, cytomegalovirus infections, exanthema subitum, erythema infectiosum, herpes simplex, larva migrans, and plague. The work contains tables showing the control of reportable infectious diseases and the procedure for suctioning.

A glossary and index in the back of the book make for ease in its use as a reference source.

B. M. PRIMER, MD
Austin

Blood Diseases of Infancy and Childhood, 3rd ed., Carl H. Smith, 874 pp., illus., St. Louis, C. V. Mosby, 1972, $32.50.

A NEW EDITION of the basic text on pediatric hematology, this book is unfortunately the last to be authored by Dr. Smith, who died before it was issued. The work is appropriate for all pediatricians and general practitioners and for some pathologists and lab technicians.

The new edition is sufficiently updated and improved by rewriting of many chapters to make the replacement of previous editions in your library worthwhile. The author touches on all areas of pediatric hematology (disease and normal states) with succinct presentations of biochemical, immunologic, physiologic, and genetic aspects, plus describing pathogenesis, clinical manifestations, and management of various entities.

Technical complexities of original articles have been minimized without reducing essential information. The bibliography is the most complete in the field of pediatric hematology. Excellent indexing and subject grouping make for quick location of needed information. Tables, figures, and illustrations are effective and present in abundance.

Chapters on erythroblastosis, jaundice, hemolytic anemias, purpuras, blood coagulation and sickle-cell disease are especially enlightening.

This is the definitive pediatric hematology text, and it deserves a place in your reference library.

ROBERT R. BURNS, MD
Austin

A Catalog of Books Before 1700 in the Moody Medical Library, Margret Gaskill, compiler, Cynthia Robinson, ed., Galveston, The University of Texas at Galveston, 1972, $7.

AN INTERESTING BOOK in its own right, and a useful bibliography, **Books Before 1700** is a compendium of works published before 1700 which are contained in the Rare Books Room of the Moody Medical Library at The University of Texas Medical Branch at Galveston.

An effort has been made to provide a full bibliographic entry for each work, despite the problems of missing title pages, multi-titled works, and language difficulties.

This catalog is the first list to incorporate all titles from the Argosy, Blocker, Crawford, Forensic Medicine, Frazier, Titus Harris, Runge, Schiller, Sowers, and Witchcraft Collections.
An interesting sidelight to the work is that the ornamental letters which appear at the beginning of each new letter of the alphabet were selected from original letters in five works from the bibliography. Many of the letters are quite intricate and beautiful.
This book should prove invaluable to medical historians. It is a credit to the Moody Medical Library and to its compilers and editors.

Topics; Information on Significant Programs and Issues in Health Care, Jean Breivogel, ed., Chicago, American Medical Association, 1972, $1.

A COMPENDIUM OF INFORMATION on important health subjects, **Topics** is a new publication of the American Medical Association. This volume supplants an earlier work, *AMA Quick Reference Guide.*
The book covers subjects including abortion, national health insurance, physicians' fees, government agencies, health care of the poor, and "usual, customary and reasonable" fees. The work covers almost 300 topics and includes a glossary of abbreviations.
For each subject covered, the book offers a definition, status of legislation, statistical data, AMA policy, AMA activities, AMA publications, and AMA departments to contact for information. In addition, the topics are cross-referenced.

Topics should prove to be a handy reference book, as well as a guide in areas where courses of action may be unclear.

IN THE TMA LIBRARY

Aladjem, Silvio: *Risks in the Practice of Modern Obstetrics*, C. V. Mosby, St. Louis, 1972.

American Academy of Orthopaedic Surgeons: *Instructional Course Lectures*, vol. 21, C. V. Mosby, St. Louis, 1972.

Fleishman, Norman, and Dixon, P. L.: *Vasectomy, Sex and Parenthood*, Doubleday, Garden City, N.Y., 1973.

Goligher, J. C.: *Surgery of the Anus, Rectum and Colon*, 2nd ed., Bailliere Tindall, London, 1972.

Gutch, C. F., and Stoner, M. H.: *Review of Hemodialysis for Nurses and Dialysis Personnel*, C. V. Mosby, St. Louis, 1971.

Krupp, M. A., and Chatton, M. J., et al: *Current Diagnosis and Treatment*, Lange Medical Publications, Los Altos, Calif., 1973.

Lamphier, T. A., Mizell, Von, and Mayer, Robert: *Manual of Routine Orders for Medical and Surgical Emergencies*, Warren H. Green, Inc., St. Louis, 1973.

McKusick, V. A.: *Heritable Disorders of Connective Tissue*, 4th ed., C. V. Mosby, St. Louis, 1972.

Questions / Answers

Editor's note: This month's Question and Answer section deals with Medicare and Medicaid charge profiles. Guest experts this month are Drs. Doyle W. Ferguson and William Fred Lucas of Blue Cross-Blue Shield of Texas, this state's fiscal intermediary.

Q Is the usual charge profile derived only from Blue Cross-Blue Shield, Title XVIII and XIX, or the total of a physician's fees?
A The charge data used in determining an individual physician's usual charge is derived from charges he submits on regular Blue Shield claims and Medicare and Medicaid claims. More than 15 million different charges were accumulated for the last profile update.

Q If Medicaid and Medicare use the same profile determination methods, why are my Medicaid allowable charges $1 to $2 less? This is not just the case for the past year or two, but for at least three or four years.
A Medicare and Medicaid use the same basic data for profile determinations. Medicaid profiles were frozen at the 1968 level for quite some time and they are still behind the Medicare profiles. The basic difference between the two payment mechanisms is that the current Medicare payments are based on charges submitted during 1971 and the Medicaid payments are based on charges submitted during 1970.

Q When an MD changes his specialty, what happens to his profile?
A Normally, when a physician changes his specialty, it is the result of residency training. Since, during the training, we would not have received charges for him, we would develop a computed usual charge profile for him based on the 50th percentile of his peer group's charge data frequency array.

Q Is a physician entitled to see his profile?
A Individual physician profiles and prevailing fee profiles cannot be released *in toto* at present. The federal government refuses the release of Medicare profiles under general instructions in the Medicare law. This information is confidential and does not come under general release for public information.
Over the past 16 months, Blue Cross-Blue Shield has attempted to get profile information released through the Bureau of Health Insurance (BHI). The Social Security Administration has released guidelines with specific instructions as to exactly when a profile amount may be released.
If there is a problem with a specific procedure, correspondence with the Reasonable Charge Unit at Texas Blue Cross-Blue Shield is encouraged. If, after this correspondence, the allowance does not appear reasonable, the physician may decide to request a fair hearing. If peer review is used, the Peer Review Committee should consider the fact that profile payment amounts are based on historical, rather than current, charges.

This section is a forum for your questions on medicolegal, socioeconomic, medical, and miscellaneous matters. You are invited to submit questions which will be presented to appropriate consultant-experts for comment. Publication will be determined by established journal policy. Letters should be signed but names will be withheld upon request. Address questions to TEXAS MEDICINE, 1801 N. Lamar Blvd., Austin, Tx. 78701.

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Personals

Dr. George J. Race, Dallas pathologist and medical educator, has been named recipient of the George T. Caldwell Award by the Texas Society of Pathologists.
The award, presented each year to a distinguished physician, is named in memory of the first chairman of the Department of Pathology at The University of Texas Southwestern Medical School in Dallas.

Dr. Robert Stockton, Waco neurosurgeon and a lieutenant colonel in the Texas National Guard, has been named recipient of The Minuteman Award for exceptionally meritorious service to the Army National Guard Aviation program.
Dr. Stockton is the flight surgeon for the 111th Aviation Group in Austin.

Dr. Joe T. Nelson, Weatherford, president of the Southern Medical Association, and member of the TMA Board of Trustees, has received the "Key to the City" award from Mayor George Seibels of Birmingham, Ala., for his "outstanding contributions to medicine in his numerous professional and civic affiliations and to the advancement of medicine in all its phases."

Funeral services for **Dr. S. Edward Sulkin,** longtime chairman of the Department of Microbiology at UT Southwestern, and world-recognized research scientist, were held Dec. 24 in Dallas. Dr. Sulkin, 64, was a consultant to *Texas Medicine.*

The Medical and Scientific Committee of the Texas Division of the American Cancer Society is offering a professional education program to 26 county medical societies on "Detection of Breast Cancer."
Traveling teams from major medical centers in Texas will present the programs. Members of the teams include the following physicians: *Dallas,* **William C. Brooks, Jerry Miller, John H. Childers, J. Harold Cheek, A. D. Sears,** and **H. Richard Pascoe.** *Houston,* **Louis E. Neff, David D. Paulus, Jr., H. Stephen Gallager, Malcom F. Sher, John E. Martin,** and **Peter M. Marcuse.** *Galveston,* **Fred J. Wolma, Richard B. Marshall,** and **Charles J. Fagan.** *San Antonio,* **Anatolio B. Cruz, Jr.,** Joella C. Pyeatte, and **Peter Zanca.**

Dr. Wade H. Lewis, San Antonio, has been elected president of the Texas District Branch of the American Psychiatric Association.

"You know darn well I don't mean your heart sound records."

Dr. William H. Hadnott, San Antonio anesthesiologist, has been named to the board of directors of the San Antonio Chapter of the American Heart Association.

Dr. Milford O. Rouse, Dallas, past president of TMA and AMA, has been elected a director of the American College of Nutrition. Dr. Rouse's election came at the 13th annual meeting of the group, held in conjunction with the AMA Clinical Conference in Cincinnati.

Dr. Thomas D. Kirksey, Austin, has been elected president of the Central Texas Medical Foundation.
Other officers elected were **Drs. John P. Schneider,** vice president; **Ernest C. Butler,** secretary; **Alford R. Hazzard,** treasurer; and **A. Lobdell Exline,** secretary-treasurer. All the doctors are from Austin.
Reelected were Drs. **Grover Bynum,** Austin; **James E. Peavy,** Austin; **Charles C. Sprague,** Dallas; and **Vance Terrell,** Stephenville.

Dr. Murray M. Copeland, Houston, has been awarded the American Cancer Society's Distinguished Service Award for "his valuable years of leadership in cancer control; for his inspired service to the American Cancer Society, . . . for his brilliant counsel to medical students, hospitals, medical and scientific organizations and centers . . . ; for serving as a dedicated surgeon; and as an example for future generations in the international medical world."
Dr. Copeland is professor of surgery at The University of Texas M.D. Anderson Hospital and Tumor Institute and vice president of international affairs for the hospital's University Cancer Foundation.

The Texas Society of Pathologists elected new officers at its annual meeting held in Galveston in January.
New officers are: Drs. **Dorothy Patras,** Fort Worth, president; **Sidney W. Kowierschke,** El Paso, president-elect; **Lamont Jennings,** Galveston, vice president; and **James C. Stinson,** Temple, secretary-treasurer.

Dr. Jesse B. Heath, Madisonville, has been selected as a Distinguished Alumnus of Southwestern University, Georgetown. Dr. Heath earned his BA from Southwestern in 1928 and was later graduated from The University of Texas Medical Branch at Galveston.

Newly-elected members of the Regional Advisory Group of the Regional Medical Program of Texas include Drs. **Cheves McCord Smythe,** dean of The University of Texas Medical School at Houston; **Frank Harrison,** president of The University of Texas Health Science Center at San Antonio; and **Lewis A. Leavitt,** Houston, chairman of the department of physical medicine at Baylor College of Medicine.

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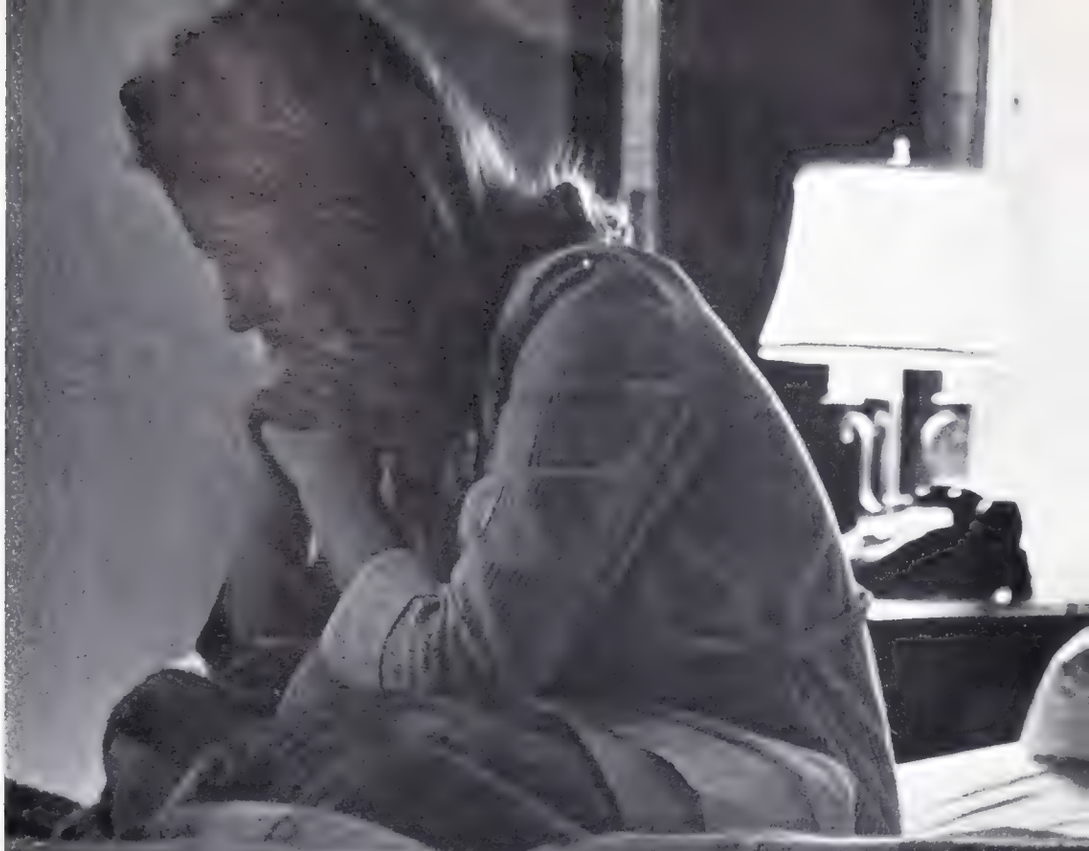

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Brief Summary

Indications—Placidyl (ethchlorvynol) is indicated as short-term hypnotic therapy in the management of insomnia.

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Warnings—Not recommended during the first and second trimester of pregnancy. Caution patients of possible combined exaggerated effects with alcohol, barbiturates, tranquilizers or other CNS depressants. Exaggerated effects might result in blurring of vision, paralysis of accommodation and profound hypnosis. Caution patients concerning driving a motor vehicle, operating machinery, or other hazardous operations requiring alertness after taking the drug. Administer with caution to patients with suicidal tendencies and do not prescribe large quantities of the drug. Adjustment of the dosage of oral anticoagulants might be necessary when beginning ethchlorvynol therapy, during therapy, or after stopping therapy. This drug is not recommended for use in children. PLACIDYL HAS THE POTENTIAL FOR THE DEVELOPMENT OF PSYCHOLOGICAL AND PHYSICAL DEPENDENCE. INSTANCES OF SEVERE WITHDRAWAL SYMPTOMS, INCLUDING CONVULSIONS AND DELIRIUM CLINICALLY SIMILAR TO THOSE SEEN WITH BARBITURATES, HAVE BEEN REPORTED IN PATIENTS TAKING REGULAR DOSES AS LOW AS 1000 MG. PER DAY OVER A PERIOD OF TIME WHEN THE DRUG WAS SUDDENLY DISCONTINUED. PROLONGED ADMINISTRATION OF THE DRUG IS NOT RECOMMENDED. Addiction-prone patients or those who are likely to increase dosages of the drug on their own initiative should be observed for evidence of signs or symptoms which may indicate possible early withdrawal or abstinence symptoms. Signs and symptoms associated with withdrawal and abstinence include unusual anxiety, tremor, ataxia, slurring of speech, memory loss, perceptual distortions, irritability, agitation and delirium. Other less well defined signs and symptoms, not necessarily due to withdrawal and abstinence, may include anorexia, nausea or vomiting, weakness, dizziness, sweating, muscle twitching and weight loss. Abrupt discontinuance of Placidyl following prolonged overdosage may result in convulsions and delirium.

Precautions—Toxic amblyopia has been reported with long-term continuous use of ethchlorvynol. Permanent visual defects have been observed, although amblyopia has improved after discontinuation of the drug. Drug dosage should be limited for elderly and debilitated patients to the smallest effective amount. If pain is present, this drug should only be given if insomnia persists after pain is controlled with analgesics. Caution is advised in prescribing the drug for patients who are being treated with either MAO inhibitors or antidepressants. Transient delirium has been reported with the combination of Placidyl and amitryptyline. Drug dosage should be reduced if prescribed for patients receiving MAO inhibitors or antidepressants. Caution should be exercised in patients with impaired hepatic or renal function. Patients who respond unpredictably to barbiturates or alcohol, or who exhibit excitement and release of inhibition in association with such agents, may also react in this way to Placidyl. Rarely, patients may exhibit symptoms suggestive of an unusual susceptibility to the drug; such as prolonged hypnosis, profound muscular weakness, excitement, hysteria, or syncope without marked hypotension. Transient giddiness or ataxia may occur.

Adverse Reactions—Hypotension, nausea or vomiting, gastric upset, aftertaste, blurring of vision, dizziness, facial numbness, and allergic reaction typified by urticaria have been reported following Placidyl administration. Mild "hangover" and symptoms of mild excitation have occurred in some patients. There have been rare reports of cholestatic jaundice occurring in patients taking ethchlorvynol. A few cases of thrombocytopenia have been reported in patients receiving ethchlorvynol. 302430R

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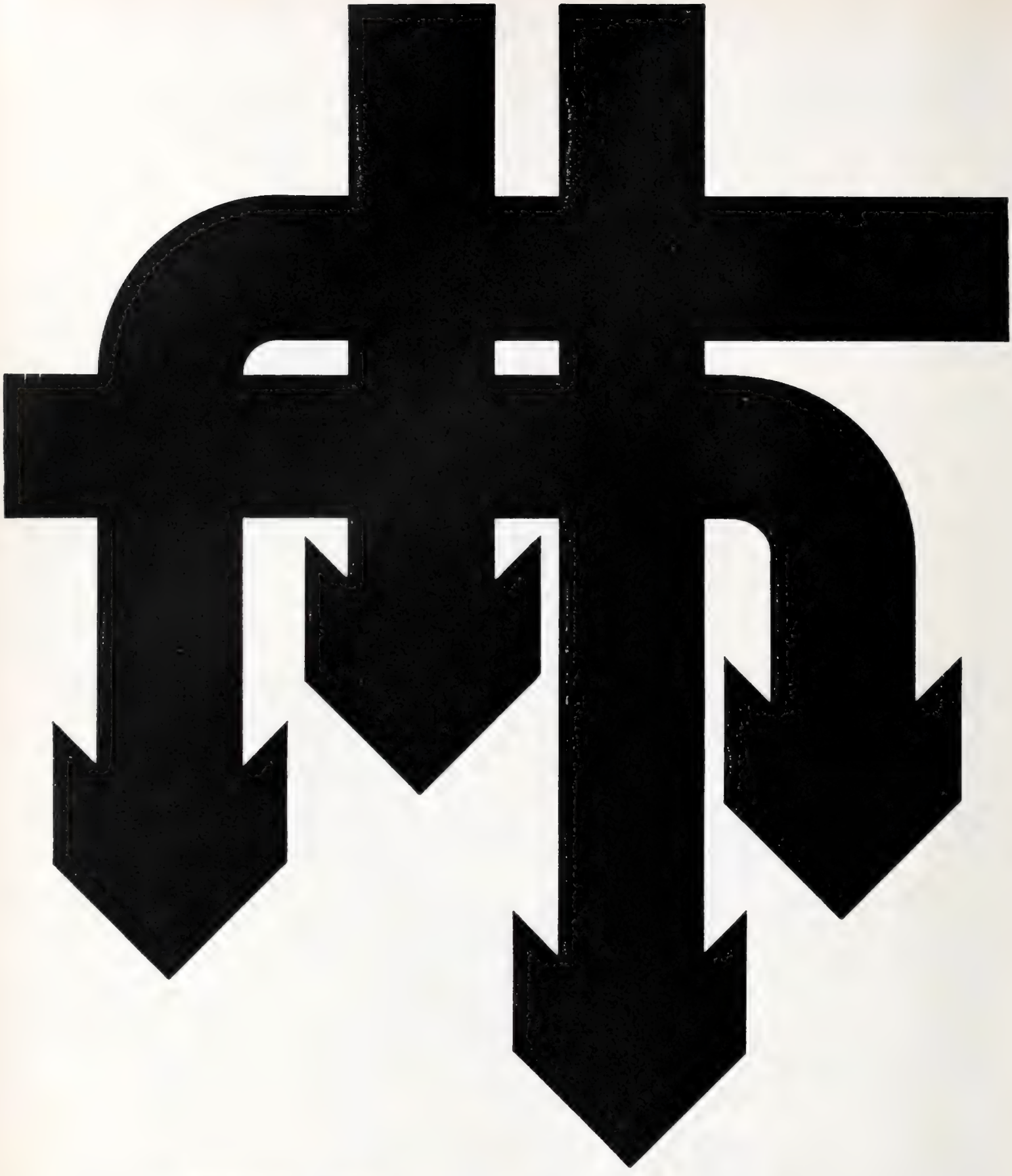

DALLAS 73

Texas Medical Association puts it all together in Dallas at its 106th Annual Session, May 3-6, 1973. Take part in the largest annual medical meeting held in the Southwest featuring 47 guest speakers plus 350 special and TMA member-speakers, section and specialty programs, continental breakfast presentations plus a wide variety of programs presenting topics of varying interests. See the current issue of Texas Medicine **for complete details and advance registration and hotel reservation forms.**

RECENTLY DECEASED MEMBERS OF THE TEXAS MEDICAL ASSOCIATION

ISAAC P. BARRETT
Fort Worth 1902-1972

CHARLES DAN BUSSEY
Dallas 1908-1972

GLEVIS W. CLEVELAND
Austin 1914-1972

JOHN D. McDANIEL
Robert Lee 1908-1972

BRITTON E. PICKETT
Crystal City 1887-1972

CHARLES R. POTTS
Houston 1902-1972

IN MEMORIAM

The Memorial Library of the Texas Medical Association stands as a permanent memorial to physicians who have served their patients, their profession, and the people of Texas so faithfully over the years.

The Library ranks as one of the finest in the nation. It is providing more than 10,000 reference requests, 3,500 tapes and cassettes, and 2,500 films each year to physicians, students, and to those seeking information related to medicine and health care. The resources of the Library include 60,000 volumes, 400 tapes, and 300 scientific and lay films; more than 1,300 professional journals are received monthly. Services are provided without charge.

Contributions to the Texas Medical Memorial Library Fund are invested in a permanent fund and are managed by the Board of Trustees of the Texas Medical Association. Dividends are used to purchase new books and to operate the Library.

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Recent deaths

Dr. Bussey

Dr. C. D. Bussey

TMA appointee to the Hospitals-Insurance-Physicians Joint Advisory Committee of Texas, Dr. Charles Dan Bussey, died Dec. 19, 1972, after a lengthy illness. He was a past president of Dallas Southern Clinical Society, chairman of AMA's Council on Scientific Assembly in 1970 and 1971, founder and past president of Dallas Society of General Surgeons, and medical consultant to Reserve Life Insurance of Dallas.

The 64-year-old surgeon had practiced in Dallas since 1940, and had been on the staffs of Baylor University Medical Center, Medical Arts Hospital, Gaston Episcopal Hospital, Presbyterian Hospital, and Parkland Memorial Hospital. He was a clinical professor of surgery at UT Southwestern Medical School.

A native of Longview, Dr. Bussey grew up in Timpson, Shelby County, where both his father, the late Dr. D. C. Bussey, and his grandfather, the late Dr. John B. Bussey, had practiced medicine. Dr. Bussey graduated from Baylor University at Waco in 1929, and received his MD degree from Rush Medical College in Chicago in 1934. After completing an internship at St. Luke's Hospital in Chicago, Dr. Bussey spent five years as a fellow in the Mayo Foundation and as first assistant to the staff of the Mayo Clinic, Rochester, Minn., receiving the MS degree in surgery in 1938.

A veteran of World War II, Dr. Bussey served with the US Army Medical Corps from 1942 to 1946. He was stationed at the 56th Evacuation Hospital in Africa and Italy, and later served as chief of surgery at the 94th Evacuation Hospital in Italy.

In addition to memberships in Texas Medical Association, American Medical Association, and Dallas Southern Clinical Society, Dr. Bussey belonged to the Dallas County Medical Society, Texas Surgical Society, Western Surgical Association, and Excelsior Surgical Society. He was certified by the American Board of Surgery.

Survivors include his wife, Lyda Lynn Wood Bussey; a daughter, Mrs. Charles F. Guittard (Lynn); a son, Charles Lelland Bussey, all of Dallas; and his sister, Mrs. Barron Johns (Frances) of Shreveport, La. His mother, Mrs. D. C. Bussey (Amanda) of Dallas also survives, and will be 104 years old in April.

Dr. Pickett

Dr. B. E. Pickett

Past president of TMA, Dr. Britton Elbridge Pickett, Sr., died Nov. 27, 1972, in a Crystal City hospital. The 95-year-old general practitioner was elected president of the Association in 1947. For many years he served as chairman of the American Medical Association's Council on Constitution and Bylaws and as chairman of the Texas delegation to the AMA.

Dr. Pickett was born in Annieville, Ark. In 1900, he entered Louisville and Hospital Medical College in Louisville, Ky., and received his license to practice medicine after his third year of study. He returned to Arkansas to practice, but after five years returned to Louisville to complete his medical education. He graduated in 1908 with an MD degree, and practiced in Big

Wells, Tex., for 20 years before establishing his practice in Carrizo Springs. He retired from active practice in 1970.

Listed in *Who's Who Among Physicians and Surgeons* and *Who's Who in America*, Dr. Pickett held many other offices and honors. He served as Dimmit County Health officer for 18 years, and was a member of the Texas State Board of Health. He was a former president of Texas Public Health Association, Southwest Texas District Medical Society, and Postgraduate Medical Assembly of Southwest Texas. In addition, he belonged to LaSalle-Frio-Dimmit Counties Medical Society, American Academy of Family Physicians, American Geriatric Society, and World Medical Association.

Surviving Dr. Pickett are his sister, Mrs. Ethel Gibbens of Imboden, Ark.; his grandson, Jack Pickett, MD, March AFB, Calif.; and several nieces and nephews.

Dr. I. P. Barrett

Former director of health for Fort Worth public schools, Dr. Isaac P. Barrett, 70, died Dec. 13, 1972, in St. Joseph Hospital. Cause of death was respiratory depression due to cerebral vascular thrombosis.

Dr. Barrett ended his many years of service to Ft. Worth schools in 1966, and moved to Marshall to assume the position of director of the Marshall-Harrison County Health Department. He retired from that position in January, 1971, and returned to Ft. Worth in November, 1972.

A graduate of Texas Christian University in Ft. Worth, the physician received his MD degree in 1924 from UT Medical Branch at Galveston. He served an internship and residency at Harris Hospital in Ft. Worth.

Dr. Barrett was a member of Tarrant County Medical Society, Texas Medical Association, and American Medical Association. He was listed in *Who's Who in America*, and was president of the American School Health Association in 1955 and 1956. He was a recipient of the B. T. Bryant Public Health Memorial Award and the William A. Howe Award of the American School Health Association for his service to the school children of America.

Surviving Dr. Barrett are his wife, Blanche; two sons, William H. Barrett of Ft. Worth, and James P. Barrett of Bedford, Tex.; and seven grandchildren.

Dr. Barrett

Dr. Cleveland

Dr. G. W. Cleveland

Dr. Glevis W. Cleveland, TMA delegate to the American Medical Association, died Nov. 9, 1972, in Austin, where he had practiced for 29 years. Dr. Cleveland, a general practitioner active in legislative affairs, died of cerebral hemorrhage. He was 58.

A 1941 graduate of Baylor College of Medicine (then located in Dallas), Dr. Cleveland had attended The University of Texas at Austin before entering medical school. After he received his MD degree, he interned at Shreveport Charity Hospital in Shreveport, La., from 1941 to 1942, and served a residency at Brackenridge Hospital in Austin in 1942 and 1943.

A native of Winters, Tex., Dr. Cleveland had been a member of the Texas

Dr. Potts

Medical Association's Council on Medical Jurisprudence and Executive Board; a past president (1957-58) and former chairman of the board of trustees of the Texas Academy of Family Physicians; and also belonged to Travis County Medical Society and American Academy of Family Physicians. He was a member of St. David's Episcopal Church in Austin and Phi Beta Pi medical fraternity.

Dr. Cleveland is survived by his mother, Mrs. Annie Cleveland of Austin; three daughters, Mrs. Judith Smith and Mrs. Cynthia Hanna, both of Austin, and Mrs. Virginia Jones of Fort Lauderdale, Fla.; one son, John Patrick Cleveland of Austin; and four grandchildren.

Dr. C. R. Potts

Retired Houston ophthalmologist Dr. Charles Robert Potts died Nov. 28, 1972, at the age of 70. He had retired from practice in 1968 due to ill health.

A native of Chicago, Ill., Dr. Potts had attended Baylor University in Waco, and Baylor College of Medicine (then located in Dallas). He received his MD degree in 1934. Dr. Potts completed an internship and residency at Hermann Hospital in Houston in 1936, and began practicing in Houston. He left his practice in 1937 to continue a residency in ophthalmology at Presbyterian Hospital in New York City. Upon completion of his residency in 1939, Dr. Potts moved to San Angelo, Tex., practicing there until he returned to Houston in 1941.

Certified by the American Board of Ophthalmology, the physician held membership in Harris County Medical Society, Houston Ophthalmological Society, Texas Medical Association, Texas Society of Ophthalmology and Otolaryngology, American Medical Association, American Academy of Ophthalmology and Otolaryngology, and American Ophthalmological Society.

Dr. Potts is survived by his wife, Vivian Taylor Potts; his son, Charles Robert Potts, Jr., of Bryan; and three grandchildren.

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* **Indication:** Based on a review of this drug by the National Academy of Sciences—National Research Council and/or other information, FDA has classified the indication as follows:
"Probably" effective: For the treatment of vulvovaginal candidiasis.
Final classification of the less-than-effective indications requires further investigation.

Contraindications: None known. **Precautions:** Cases of sensitization and irritation have been reported. When noted the drug should be discontinued. **Dosage:** One applicatorful intravaginally twice daily for a period of 14 days. Course of therapy may be repeated if necessary.

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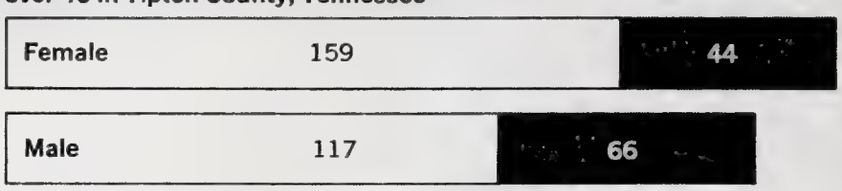
What it means to live and work in Tipton County, Tennessee

Persons who are white and over 40 have one chance in four of having solar keratoses... which may be premalignant

An epidemiologic study* conducted in Tipton County, Tennessee, revealed that 28.5% of white persons over 40 had solar keratoses; most had multiple lesions. Cluster sampling projected an estimated prevalence of 32.5% for white males and 19.5% for white females.

Though this is an unusually high percentage of affected persons, these lesions can occur in any white population, wherever people work or play out of doors.

Prevalence of solar keratoses in white persons over 40 in Tipton County, Tennessee



*Data on file, Hoffmann-La Roche Inc., Nutley, New Jersey.

Solar, actinic, senile keratoses

Called by many names, the typical lesion is flat or slightly elevated, brownish or reddish in color, papular, dry, adherent, rough, sharply defined; usually multiple lesions, chiefly on exposed portions of the skin.

Sequence/selectivity of response

Erythema in areas of lesions may begin after several days of therapy; height of reaction (only in affected areas)* usually occurs within two weeks, declining after discontinuation of therapy. Since this response is so predictable, lesions that do not respond should be biopsied to rule out the presence of a frank neoplasm.

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Precautions: If applied with fingers, wash hands immediately. Apply with care near eyes, nose and mouth. Lesions failing to respond or recurring should be biopsied.

Adverse Reactions: Local—pain, pruritus, hyperpigmentation and burning at application site most frequent; also dermatitis, scarring, soreness and tenderness. Also reported—insomnia, stomatitis, suppuration, scaling, swelling, irritability, medicinal taste, photosensitivity, lacrimation, leukocytosis, thrombocytopenia, toxic granulation and eosinophilia.

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INDICATIONS: Based on a review of this drug by the National Academy of Sciences–National Research Council and/or other information, the FDA has classified the indications as follows:

Possibly Effective:

1. For the relief of symptoms associated with cerebral vascular insufficiency.
2. In peripheral vascular disease of arteriosclerosis obliterans, thromboangiitis obliterans (Buerger's disease) and Raynaud's disease.
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Tablets, 10 mg.—bottles of 100, 1000, 5000 and Unit Dose
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REFERENCE: 1. Samuels, S. S., and Shaftel, H. E.: J. Indiana Med. Ass. *54*:1021-1023 (July) 1961.

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ORTHOPEDIC SURGEON AND TWO GP's needed by 19 doctor group, 100-bed fully accredited hospital. Salary open. Full partnership in one year. For additional details, write John B. Chester, M.D., 3330 South Lancaster Road, Dallas, Texas 75216.

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INTERNISTS—To conduct private practice and join staff, any one of five modern, progressive, publicly owned hospitals, all in desirable Gulf Coast cities. Generous guaranteed income during first year. Reply Ad-410, *Texas Medicine*, 1801 North Lamar Blvd., Austin, Texas 78701.

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GENERAL PRACTICE—Family practice with two other practitioners. New 43 bed hospital. No investments, other benefits negotiable to your desires, equal privileges, excellent income assured. Contact M. H. Shankles, Administrator, Shamrock General Hospital, 1000 South Main, Shamrock, Texas 79079. Telephone AC806-256-2114.

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GENERAL PRACTITIONER OR INTERNIST for part-time work (10 to 12 hours per week) in industrial preventive medical program with petroleum firm in Corpus Christi area. Remuneration: $10,000 to $12,000 per year. Reply to Charles S. Ryan, M.D., 1608 Walnut Street, Philadelphia, Pennsylvania 19103 or call AC215-985-1600, Ext. 3310.

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PHYSICIANS WANTED: INTERNIST AND/OR CARDIOLOGIST. AUSTIN. Excellent private practice opportunity for one or two internists, at least one of which should have subspecialty interest in cardiovascular disease. For details, write Ad-442, *Texas Medicine*, 1801 North Lamar Blvd., Austin, Texas 78701.

PHYSICIANS 750 bed hospital with large medical, surgical, psychiatric services, is in need of general and some subspecialty internists, and psychiatrists, with or without certification. Located in small, medically oriented city, close to large metropolitan areas. Excellent consultation and facilities available. Possible site for medical school. Salary competitive, ample vacation and sick leave, and fringe benefits. Equal employment opportunity agency. Apply Chief of Staff, VA Center, Temple, Texas.

PHYSICIANS WANTED—GENERAL PRACTITIONER AND GENERAL SURGEON: Cameron is located in Central Texas, with a population of 6,500 and trade area of 35,000. There is available a fully equipped clinic and 71 bed hospital. Physician potential net income $20,000 to $60,000 per year. For additional information, contact F. L. Gregory, Business Manager, Newton Clinic, P.O. Box 202, Cameron, Texas 76520. Telephone AC817-697-6624 or 697-2915.

WANTED: INTERNIST, certified or board eligible to join two doctor group in a proprietary specialty 27 bed JCAH hospital and clinic. Close affiliation with the staff members of ten specialists. Membership is also available on the active staff of a 150 bed general hospital. Plainview is the center of a populace and prosperous irrigated farm area in West Texas. It is a family oriented city of 20,000 with excellent medical facilities, 25 MDs, fine schools, no traffic problems and five minutes from home to office. Both excellent hours and unusual high income are assumed and can be guaranteed. Please reply to Ad-444, *Texas Medicine*, 1801 North Lamar Blvd., Austin, Texas 78701.

IMMEDIATE OPENING for board eligible pediatrician to join an established group of three pediatricians in Arlington, Texas (midway between Dallas and Fort Worth). Contact Frances Lankford, M.D., telephone AC817-275-3772 or 275-0723.

GENERAL PRACTITIONER to associate with active GP in Dallas suburb. Office attached to JCA hospital. 40-hour week, no OB, night or weekend calls. Annual gross $200,000 last 12 years. Guaranteed $2,500 per month or 50% of gross, whichever greater. Write P.O. Box 558, Mesquite, Texas 75149.

Situations Wanted

SEEKING LOCATION—32 year old orthopedic surgery finishing training at The University of Texas Medical Branch in September 1973 desires to practice in a community of 30,000 to 125,000. Military obligation previously fulfilled. Please reply to Ad-408, *Texas Medicine*, 1801 North Lamar Blvd., Austin, Texas 78701.

CERTIFIED SURGEON—GENERAL: Does hand and peripheral vascular. Age 34. Texas license. Desires to relocate in Texas with group, partnership or solo. Limited general practice if necessary. Available on short notice. Please reply to Ad-428, *Texas Medicine* 1801 North Lamar Blvd., Austin, Texas 78701.

GENERAL SURGEON looking for a position with a group or solo in the Dallas or San Antonio area, may consider other areas. Age 46. Diplomate of the American Board of Surgery. Wide experience in industrial and occupational medicine and willing to do general practice if needed. Reason for change: warmer climate, cannot stand very cold winters. Please reply to Ad-430, *Texas Medicine*, 1801 North Lamar Blvd., Austin, Texas 78701.

GENERAL SURGEON, board eligible, FMG, wishes to relocate. Five years in practice with orthopedic and GYN surgery experience. Prefer solo. 5,000-25,000 town with good hospital. Good references. Available immediately. Have Texas license. Please reply to Ad-431, *Texas Medicine*, 1801 North Lamar Blvd., Austin, Texas 78701.

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Editorials

SCREEN WOMEN FOR RUBELLA VACCINATION

The TMA House of Delegates endorsed the recommendations on the rubella vaccination presented to it in May, 1972, by the TMA Committee on Maternal Health. The three recommendations are:

1. That when female patients seek premarital counseling, family planning, or obstetrical care, the attending physician perform an immunological test for rubella, preferably along with other routine blood tests.

2. That when a female patient of reproductive age seeks vaccination for rubella, the attending physician perform an immunological test for rubella prior to vaccinating the patient.

3. That when an attending physician vaccinates a patient of childbearing age for rubella, he urge the patient to avoid pregnancy for at least three months.

The Committee on Maternal Health researched the rubella issue carefully before going on record with these recommendations. Pertinent data indicate that the mass rubella vaccination of children begun in 1969 was successful in blunting the rubella epidemic that was expected to occur in 1972. Endemic rubella in 1970-1971 was 10% less than anticipated. Eventually, this type of vaccination program might effectively eradicate rubella, utilizing the principle of "herd immunity." To date, however, there is no information as to whether birth defects from rubella are less frequent since initiation of the rubella vaccination programs. Pregnant women still are contracting rubella, since many women of childbearing age do not have immunity conferred by either vaccination or previous infection. Protection of the embryo and fetus vulnerable to damage from the rubella virus still is the physician's responsibility.

Protection of the conceptus is definitely possible through the thoughtful vaccination of susceptible women of reproductive age. Studies have shown that the level of immunity developed through vaccination with the attenuated rubella virus may be lower than that from a wild rubella virus infection, but nonetheless protects from reinfection with the wild rubella strain. The length of this protection is unknown.

Rubella antibodies are detected most often using a hemagglutination-inhibition test. It is important that this be done prior to vaccination to determine the immune status of the patient. Lack of this knowledge makes it difficult to be certain whether the titer reported after vaccination is the result of the vaccine or of a previous infection. Although there is some minor disagreement, protection from rubella infection seems to be conferred if the antibody titer is 1:8 or greater.

The most important aspect of rubella vaccination of women of reproductive age is being certain that pregnancy does not exist at the time of the vaccination, and that pregnancy does not occur for at least two months following vaccination. It has been documented without question that the attenuated strain of the rubella virus used for vaccination does cross the placental barrier, and does infect the conceptus. If a patient is inadvertently vaccinated with rubella vaccine within two months before pregnancy or during the first 15 weeks of pregnancy, there is a 25% risk of fetal rubella viremia.

The Committee on Maternal Health urges all physicians to effect prevention of rubella damage to our future population. This can be done by proper screening and vaccination of susceptible women of childbearing age when the physician treats the premarital, family planning, or obstetrical patient. The rubella recommendations have done much toward making the prevention of rubella infection in pregnant women an acceptable standard of medical care in Texas.

James M. Adkins, MD, Houston, Member, Committee on Maternal Health.

TMA FOCUS ON MEDICAL MANPOWER

A recent study on medical manpower in Texas, done by TMA's Office of Medical and Health Manpower, shows that the number of family physicians in Texas has been decreasing steadily for many years.

Texas presently has 2,775 general practitioners, representing 24% of the physicians in the state, for a ratio of 1 to 3,650. Both the American and Texas Academy of Family Physicians have stated that the desired ratio is 1 to 2,000, and on the basis of these figures, Texas could absorb 2,500 more family physicians immediately.

However, as TMA Executive Secretary C. Lincoln Williston notes in his article on medical manpower in this issue, even if the state did suddenly absorb 2,500 more family physicians, the problem of geographical distribution would still remain. Physicians are locating in the more populous counties of Texas at a higher rate than the migration of the general population, leaving many counties with higher than average physician to patient ratios, and some 23 Texas counties with no medical doctor at all.

Obviously, this situation presents a challenge to all Texans, and especially to the Texas Medical Association, which has given the problem high priority. At the TMA's 1972 Annual Session in San Antonio, the House of Delegates passed unanimously a resolution presented by the Gonzales County Medical Society. This resolution, as amended, called for the Texas Medical Association to introduce, cause to be introduced, and vigorously support legislation and programs designed to increase the opportunities for training family physicians by publicly supported medical schools and other approved family practice residency programs.

Since that time, Rep. William Heatly of Paducah has introduced a bill relating to the creation of the State Medical Education Board, as provided for under the Texas Constitution. This bill, which has the support of the TMA Council on Medical Jurisprudence, would empower the State Medical Education Board to provide for loans, grants, or scholarships to Texas students desiring to study medicine. If the loan applicant chooses to practice in a rural area (defined in the bill as a county in Texas which had a population of 25,000 or under according to the 1970 federal census) the board would be authorized to credit one-fifth of the loan, grant or scholarship together with interest for each year of practice. By means such as this, it is hoped that students from rural areas and those who might not otherwise have the means to finance a medical education will be encouraged to pursue medical training and to return to rural areas to practice.

In addition to the work of the Council on Medical Jurisprudence, the Association's Board of Trustees has also been concerned about this problem and, acting independently, has been pushing several programs which may offer promise. Past President James H. Sammons has given suggestions for a 10-point program in the medical manpower area to officials of the University of Texas. Many of these ideas were

also discussed by TMA officers, trustees, council and committee chairmen, deans of medical schools, and representatives of state agencies at a Special Meeting on Medical Manpower held in Austin on Sept. 22, 1972. The TMA Council on Medical Education and Hospitals has also discussed the need for primary care physicians at meetings with deans of medical schools. Through such meetings, it is hoped that greater cooperation and joint efforts can be stimulated between TMA, medical schools, and state and federal agencies.

The Board of Trustees and the Headquarters staff are also continuing their work to encourage medical students, interns and residents to consider practicing in the primary fields—family practice, internal medicine, pediatrics, and obstetrics and gynecology. A special newsletter on medical manpower in Texas, citing opportunities in the state, was recently mailed to all medical students, interns, and residents and to others associated with medical education and training.

It is clear that the problem of finding solutions to the medical manpower situation must be approached from several directions. The need must first be gauged through studies, and problem areas must be defined. This information must then be disseminated to students, medical educators and state and federal agencies, and we must attempt to gain the cooperation of these sectors in our efforts. In addition, community leaders in rural areas have been approached and encouraged to do their share to help by making their communities attractive ones in which to live and by helping local students with scholarships and incentives to return to practice in their home towns.

All these efforts are showing results. The number of Texas medical schools has now doubled from three to six. With these developments, it is estimated that the total first-year enrollment of medical students in Texas will rise from 516 in 1970 to 1,044 in 1975. By 1980, Texas schools should be graduating more than 1,000 doctors a year, an increase of more than 100%.

TMA's efforts to recruit young physicians from other states are proving productive. This past year, the state of Texas licensed more than 1,000 new physicians for the first time, and about 60% of those new physicians have been educated in out-of-state schools.

The need for more family physicians and other health care professionals in primary care will be here for some time. The geographical distribution of these physicians will also remain a problem. But more than a problem, the medical manpower situation presents a challenge. It is a challenge that we must meet if the Texas Medical Association is to fulfill its pledge to make the best medical care possible available for all Texans.

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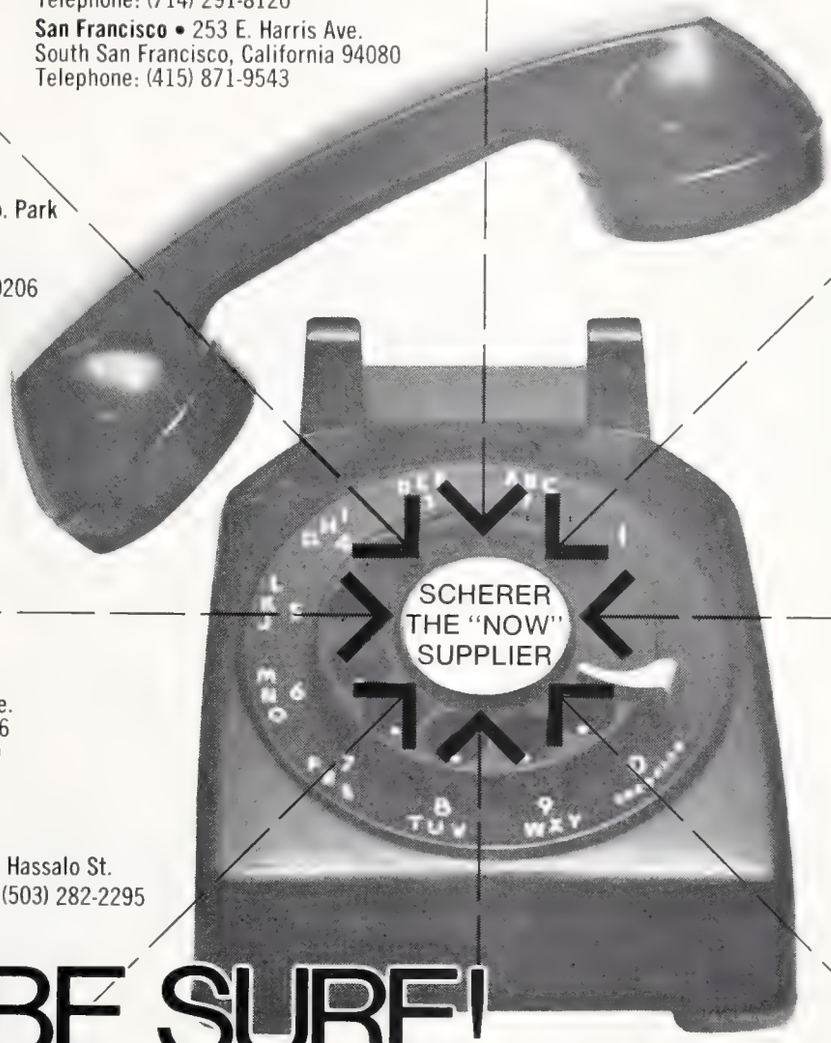

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Contraindicated: Known hypersensitivity to the drug. Children under 6 months of age. Acute narrow angle glaucoma; may be used in patients with open angle glaucoma who are receiving appropriate therapy.

Warnings: Not of value in psychotic patients. Caution against hazardous occupations requiring complete mental alertness. When used adjunctively in convulsive disorders, possibility of increase in frequency and/or severity of grand mal seizures may require increased dosage of standard anticonvulsant medication; abrupt withdrawal may be associated with temporary increase in frequency and/or severity of seizures. Advise against simultaneous ingestion of alcohol and other CNS depressants. Withdrawal symptoms (similar to those with barbiturates and alcohol) have occurred following abrupt discontinuance (convulsions, tremor, abdominal and muscle cramps, vomiting and sweating). Keep addiction-prone individuals under careful surveillance because of their predisposition to habituation and dependence. In pregnancy, lactation or women of childbearing age, weigh potential benefit against possible hazard.

Precautions: If combined with other psychotropics or anticonvulsants, consider carefully pharmacology of agents employed; drugs such as phenothiazines, narcotics, barbiturates, MAO inhibitors and other antidepressants may potentiate its action. Usual precautions indicated in patients severely depressed, or with latent depression, or with suicidal tendencies. Observe usual precautions in impaired renal or hepatic function. Limit dosage to smallest effective amount in elderly and debilitated to preclude ataxia or oversedation.

Side Effects: Drowsiness, confusion, diplopia, hypotension, changes in libido, nausea, fatigue, depression, dysarthria, jaundice, skin rash, ataxia, constipation, headache, incontinence, changes in salivation, slurred speech, tremor, vertigo, urinary retention, blurred vision. Paradoxical reactions such as acute hyperexcited states, anxiety, hallucinations, increased muscle spasticity, insomnia, rage, sleep disturbances, stimulation have been reported; should these occur, discontinue drug. Isolated reports of neutropenia, jaundice; periodic blood counts and liver function tests advisable during long-term therapy.

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ETHICS

My time is running out . . . I really had intended writing you about several other subjects. Being a former member of the Board of Councilors, I feel compelled to write something about medical ethics.

It is my opinion that the position occupied by the physician in the community has deteriorated rapidly during the past 20 years. This loss has been due chiefly to the erosion of medical ethics. TV programs and other news media also have influenced the public attitude toward the physician. Since ethics cannot be formulated or enforced by committees or panels, it is, ultimately, a matter of the head and the heart. Are our patients being treated as we would like to be treated if we were in their place?

The Supreme Court ruling on abortion has opened a new challenge to our profession. The Texas Medical Association has a sound policy on abortion, and we should be careful to abide by it as we study the problems arising from the Supreme Court ruling.

Our present guidelines are: abortion is a medical procedure which should be performed by a duly licensed physician and surgeon in a licensed hospital acting only in conformity with standards of good medical practice, and after proper medical consultation.

No physician or other professional personnel shall be compelled to perform any act which violates his good medical judgment or moral convictions.

The solicitation of patients is unethical, whether it be for abortion or any other medical service.

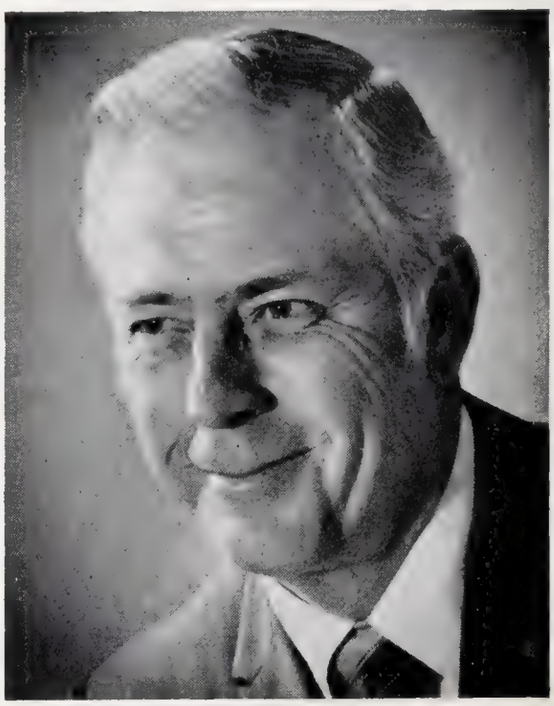
There are many things that are legal that may not be right in the eyes of God. Let's weigh our decisions very carefully, be sure we are right and then go ahead, and do every job as though it were for the Lord, knowing He is standing by as our helper.

Medicine without an ethic; the law without a norm; and the religious community without a theology of life and death, man and nature; will leave people without a defense. This is particularly true in a world in which so many are willing to sacrifice the other rather than sacrifice for the other.

Think it over. I just want our profession to be the very best.

Braswell Locker, M.D.

Braswell Locker, MD, President, Texas Medical Association.



Texas Medicine

1973 Annual Session preview

Delegates face PSROs, other issues

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Precautions: In the elderly and debilitated, and in children over six, limit to smallest effective dosage (initially 10 mg or less per day) to preclude ataxia or oversedation, increasing gradually as needed and tolerated. Not recommended in children under six. Though generally not recommended, if combination therapy with other psychotropics seems indicated, carefully consider individual pharmacologic effects, particularly in use of potentiating drugs such as MAO inhibitors and phenothiazines. Observe usual precautions in presence of impaired renal or hepatic function. Paradoxical reactions (*e.g.*, excitement, stimulation and acute rage) have been reported in psychiatric patients and hyperactive aggressive children. Employ usual precautions in treatment of anxiety states with evidence of impending depression; suicidal tendencies may be present and protective measures necessary. Variable effects on blood coagulation have been reported very rarely in patients receiving the drug and oral anticoagulants; causal relationship has not been established clinically.

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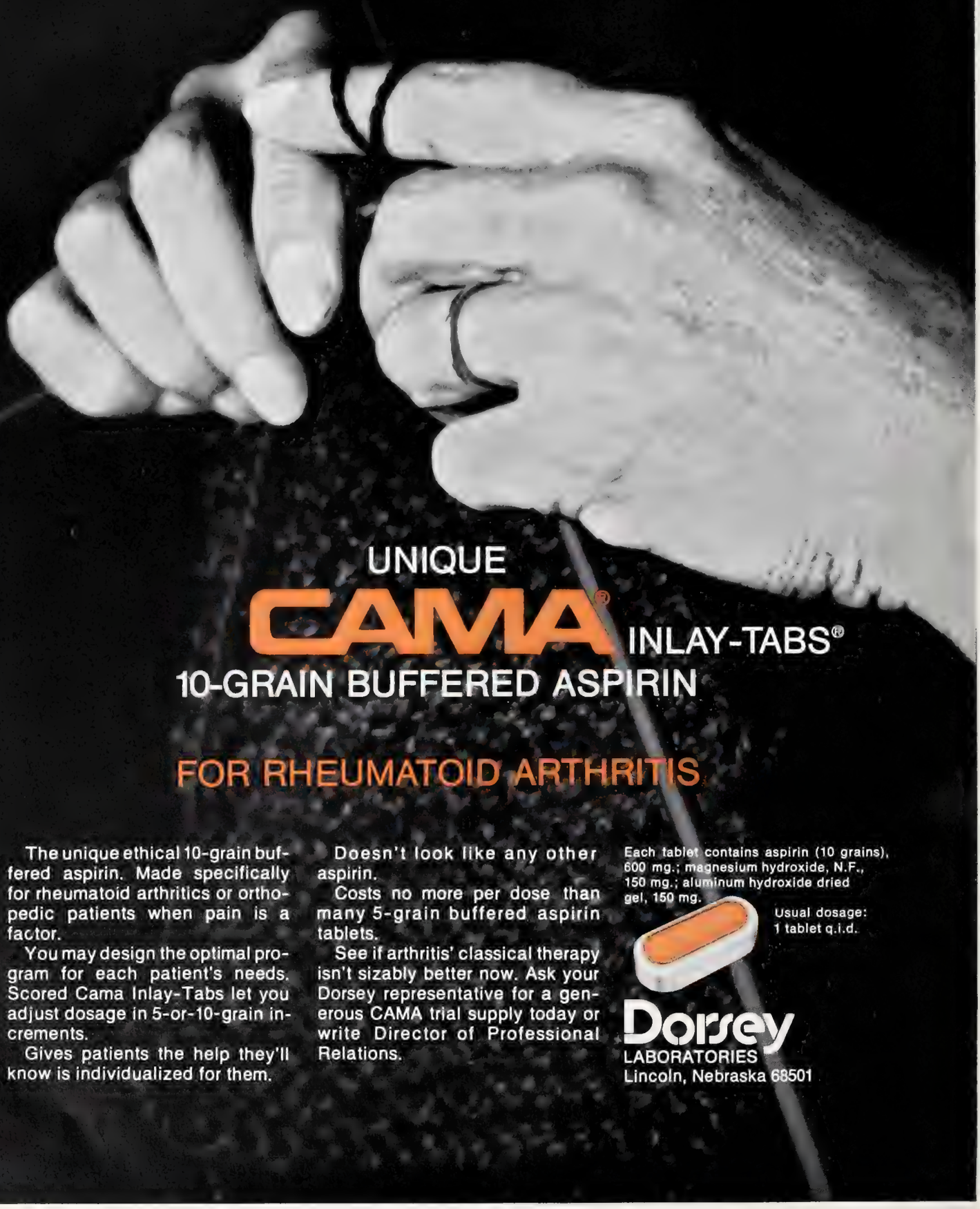

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ON THE COVER

The marquee highlights Dallas as the host city for the Texas Medical Association's 1973 annual session May 3-6. Every inch a star, Dallas promises entertainment to suit every taste. See the story beginning on p. 112.

NEXT MONTH

In May, *Texas Medicine* will bring you articles on Current Procedural Terminology, electrical hazards in hospitals, the Hamman-Rich syndrome, myasthenia gravis, absence of cognitive deficits from bilateral cingulotomy for intractable pain, a psychiatric diagnostic center, and pediatric grand rounds. Also, you might reread Oliver Goldsmith's *The Deserted Village* to get in the right mood for "Vital Signs for Sweet Auburn."

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1. Gertler, M. M., et al.: Geriatrics *25*:134-148 (May) 1970.

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Adverse Reactions: On rare occasions, oral administration of the drug has been associated in time with the occurrence of severe rash. When rash appears, the drug should be discontinued. Occasional overdosage effects such as transient palpitation or dizziness are usually controlled by reducing the dose.

Supplied: Tablets, 10 mg.—bottles of 100, 1000, 5000 and Unit Dose; 20 mg.—bottles of 100, 500 and Unit Dose.

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NEWS

Discussion of PSROs major issue facing TMA House

Among the major issues confronting the Texas Medical Association's House of Delegates at the 1973 Annual Session will be one which many feel may have greater impact on the medical profession than any event since the enactment of Medicare—the Professional Standards Review Organization, or PSRO.

At the Dallas Annual Session in May, the House of Delegates must determine what role, if any, the Texas Medical Association should play in the implementation of PSROs. Several resolutions already have been received from county medical societies, and the TMA Council on Tax-Financed Health Care Programs will make recommendations concerning PSRO in a special report to the House.

Resolutions from the Cherokee and Cass-Marion County Medical Societies both call for the House of Delegates to move to establish an organization which can qualify and be recognized as a statewide PSRO. The recommendation from the Council on Tax-Financed Health Care Programs will call for the same action and will further recommend that the Board of Trustees take the necessary legal steps to create a separate, non-profit corporation to perform the PSRO function, and that they "use every possible means to effect the designation of the State of Texas as a single PSRO."

In action taken March 20, the Association's Emergency Policy Board requested and authorized the TMA Board of Trustees to expend funds to proceed with an educational program to inform the House of Delegates and members of the Association about PSROs.

What is a PSRO?

Provision for the establishment of Professional Standards Review Organizations were included in House Resolution 1—the Social Security Amendments of 1972, which was passed by Congress and signed into law by President Nixon Oct. 20, 1972. Now known as Public Law 92-603, it soon will be interpreted in a series of Social Security Administration regulations which will be published in proposed form in the *Federal Register.*

Section 249F of PL 92-603 (the Bennett Amendment to HR 1) calls for the establishment of PSROs representing a substantial proportion of practicing physicians which would assume responsibility in areas designated by the secretary of the Department of Health, Education, and Welfare for comprehensive and continuing review of services covered by Medicare and Medicaid. Operational expenses will be underwritten by HEW.

The PSRO, at first, is required to review the appropriateness and effectiveness of the use of inpatient facilities only. It is permitted to review non-institutional services only with the approval of the secretary of HEW. Later, the scope of PSRO activities will be expanded.

Reviews will be made to determine whether services provided are medically necessary, meet appropriate professional standards, and, in the case of proposed inpatient services, could be provided on an outpatient basis or more economically in a facility of a different type.

Organization

PSROs will be organized on three levels—national, state and local. On the national level, a National Professional Standards Review Council composed of 11 physicians appointed by the secretary of HEW (the majority of whom must be recommended by national organizations representing practicing physicians) will assist the secretary in implementing the law.

The national council will have five responsibilities. They include advising the secretary in the administration of the law, including the development of regulations; providing for the development and distribution of information and data to assist the state professional standards review councils and PSROs in carrying out their functions and duties; reviewing the operations of state councils and PSROs to determine their effectiveness and comparative performance in carrying out their duties; approving professionally developed norms of care typical of the area covered by the PSRO, and assist in the use and application of the norms; and carrying out or arranging for studies to evaluate PSROs to develop recommendations for making the organizations more effective and efficient. Statewide Professional Review

NEWS

Councils will be established by the secretary of HEW in all states in which he establishes three or more PSROs. These councils will be composed of one physician designated by each of the state's PSROs; two physicians nominated by the state medical society; two physicians nominated by the state's hospital association; and four public representatives knowledgeable about health care, two of whom will be recommended by the governor of the state.

The duties of the state council will be to coordinate the activities of state PSROs; to develop uniform data collection and operating procedures to assure efficient operation and objective evaluation; to assist in evaluating the performance of each state PSRO; and to assist in developing a qualified PSRO to replace a PSRO which has been determined to be ineffective.

Wherever State Professional Review Councils exist, a Professional Standards Review Advisory Group will be organized to assist it. These groups will be made up of representatives of health care practitioners (other than physicians), hospitals and other health care facilities.

The local PSRO

The basic unit of this organization will be the PSRO itself. The secretary of HEW must, by Jan. 1, 1974, designate geographical areas in which individual PSROs will function. Each PSRO must be composed of a substantial number of doctors of medicine and of osteopathy in the designated area. Until Jan. 1, 1976, only organizations representing a substantial number of the members of these groups may be designated as a PSRO.

In order to qualify as a PSRO, an organization must be a non-profit professional association, or a component thereof, which is composed of practicing doctors of medicine and of osteopathy. Membership must be voluntary, and open to all MDs and DOs without requirement of membership in or dues paid to any organized medical society or organization. In addition, the organization must have available the professional competence to review professional services. Physician organizations will have priority in the establishment of PSROs, but if no such organization exists by Jan. 1, 1976, the secretary of HEW will be allowed to designate a qualified public or non-profit organization to serve as a PSRO.

Duties of the PSRO

When the PSRO assumes its full scope, it will review the professional activities of all physicians and other health care providers and institutional and non-institutional providers for services covered under the Social Security Act—Medicare, Medicaid, and maternal and child health programs. The organizations will have advance authority over all elective admissions to hospitals and other facilities and for extended or costly treatment. They will review practitioners' profiles of care for all such services and determine whether they meet established criteria.

All of these duties will not be assumed immediately. Local PSROs will be subject to a trial period which cannot exceed 24 months, during which they will progressively assume more and more responsibility.

The PSRO is responsible for the review of professional activities of physicians and other health care practitioners and institutional and non-institutional providers of health care services to determine the following: 1) Are the services and items medically necessary? 2) Does the quality of services meet professionally recognized standards of health care? and 3) Could the services and items provided in a hospital or other health care facility on an inpatient basis be provided either more economically in another type of health facility or be provided on an outpatient basis and still be consistent with the provision of

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appropriate medical care?
The PSRO is also responsible for assuring that all final decisions relating to professional conduct or acts of doctors of medicine and doctors of osteopathy are made by doctors of medicine or osteopathy.
With the approval of the secretary of HEW, PSROs may evaluate services other than those provided on an inpatient basis, including review of ambulatory services, extended care facilities, utilization, drug utilization, and home health services.
Initially, however, the PSRO will limit its review activities to institutional care, except where the secretary permits it to extend its activities.
Other duties of the PSRO include encouraging physician participation in the review activities of the PSRO by participating as reviewers; by rotating physician membership on a continuing basis; and assuring that the physician membership on review committees has the broadest representation possible. The PSROs are also required to publish in medical journals and similar publications an account of their activities; make use of services of hospital review committees (or any other health care facility) when such committees have demonstrated their ability to perform satisfactorily; and collect data, information, and records as directed by the secretary of HEW. All data collected by PSROs must remain confidential.

Violations and penalties
Providers of services paid for under the Social Security Act who violate PSRO tenets may be banned from participation in any government-funded program. To avoid being banned, a violator may be reinstated by paying a fine of $5,000 or the cost of improper services, whichever is less.
PSROs must inform providers, claims agencies, and recipients whenever there is disapproval of services provided. Violations and recommendations of action to be taken must be reported to the Statewide Professional Standards Review Council, which in turn transmits its recommendations to the secretary of HEW.
A provider may ask for reconsideration of a PSRO decision, and if the PSRO reaffirms its decision, may appeal to the state council if the amount involved is at least $100. If that decision is adverse to the provider, he may appeal to the secretary of HEW. Cases involving $1,000 or more may be appealed to the courts.

Changing a PSRO
If a PSRO is not fulfilling its duties in a timely and effective manner and at a reasonable cost, the secretary of HEW may replace a PSRO sponsored by a medical society with a public or nonprofit private agency or organization which is professionally competent. The latter action, however, may not be taken before Jan. 1, 1976, unless there is no medical society-sponsored agency which is qualified and willing to assume responsibility.
Prior to that date, doctors of medicine and of osteopathy must be notified whenever the secretary of HEW proposes to appoint a PSRO. Objections may be raised and if more than 10% of the physicians in an area object to the proposed PSRO, the secretary must poll area physicians. If 50% of these physicians say the proposed PSRO is not representative of area physicians, the secretary may not enter into an agreement with that PSRO.

Legal immunity
All providers of health services who exercise reasonable care will have legal immunity from criminal or civil action under state or federal law which results from his performance in compliance with the provisions of the law. In addition, any persons providing information to PSROs are protected from legal action, as are employees of PSROs and those providing professional counsel or services.

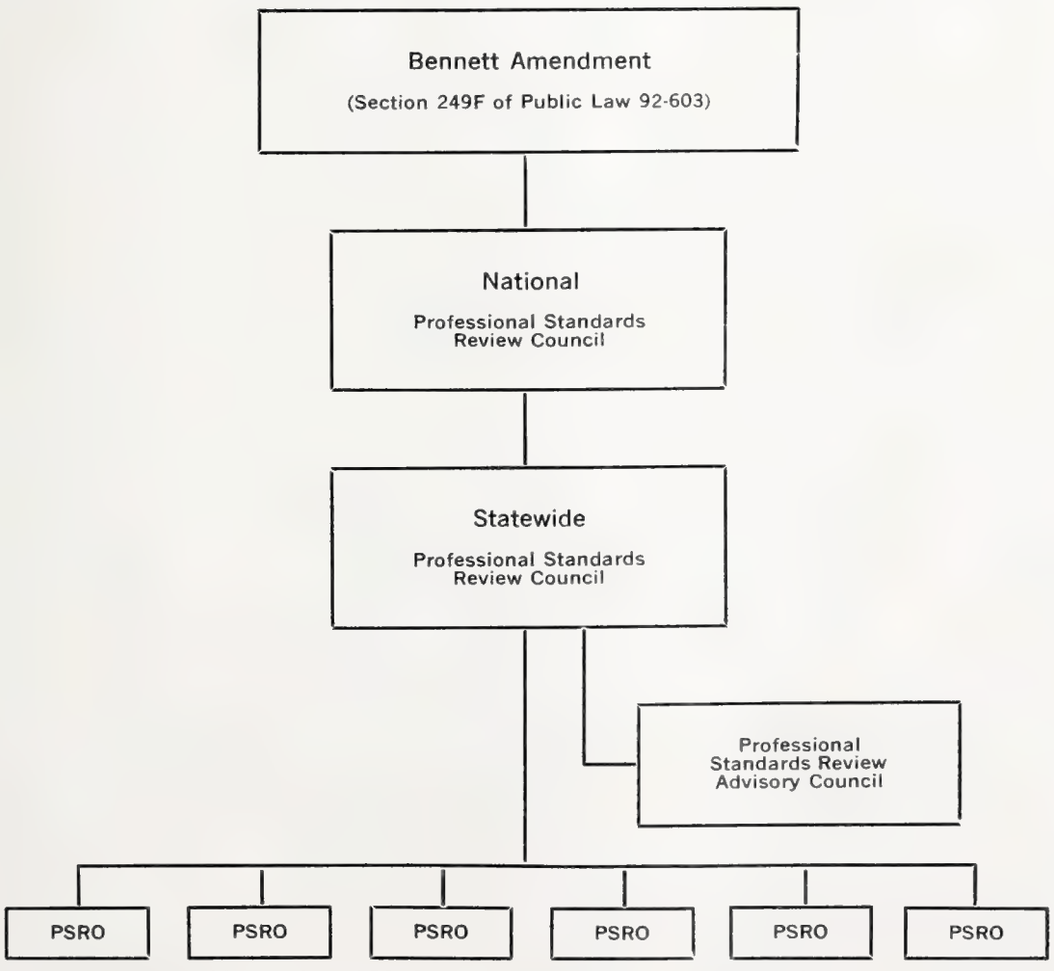
Viewpoints

Although there seem to be few segments of the medical profession which welcome the PSRO concept, viewpoints about how to deal with the law do vary. The American Medical Association's House of Delegates has gone on record stating that the AMA should provide leadership in the establishment of PSROs to "assure that the best interests of the public and the profession are preserved." The AMA House took the position that default of leadership seems certain to result in lay control of PSROs.

The AMA has created an advisory committee on PSRO which includes members of the board and Council on Medical Service. The function of the committee is to provide information from the medical profession in the development of regulations governing PSROs; to assist state medical associations in developing PSROs and to recommend structures and operating mechanisms for such organizations; and to aid in defining appropriate geographic boundaries for PSROs.

The opinion of the Association of American Physicians and Surgeons, on the other hand, is that physicians should not cooperate at all with government attempts to establish PSROs which it says are clear interference in the practice of medicine. The AAPS advocates that physicians refuse to take money from Medicaid, Medicare, or any other Social Security-financed program, and that they refuse to take part in the implementation of any PSRO.

Meanwhile, the American Medical Association has conducted a survey of state medical societies to assess their activities, attitudes, and preferences as they relate to PSRO developments. The survey shows that the majority of state medical societies (70.6%) are planning to apply for designation as PSROs, while 10% do not plan to do so. Texas is listed as



The number of PSROs for Texas has not yet been established.

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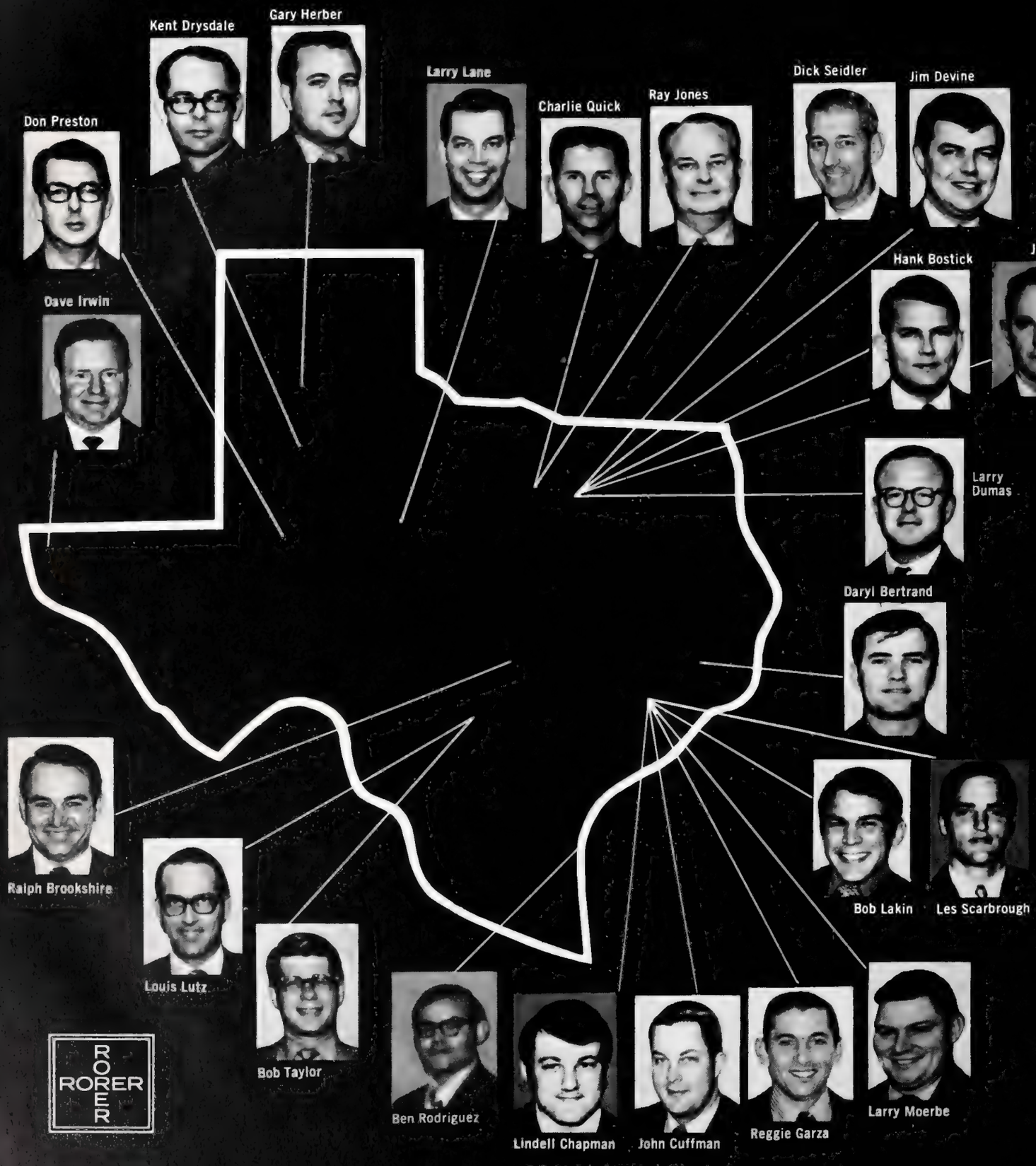

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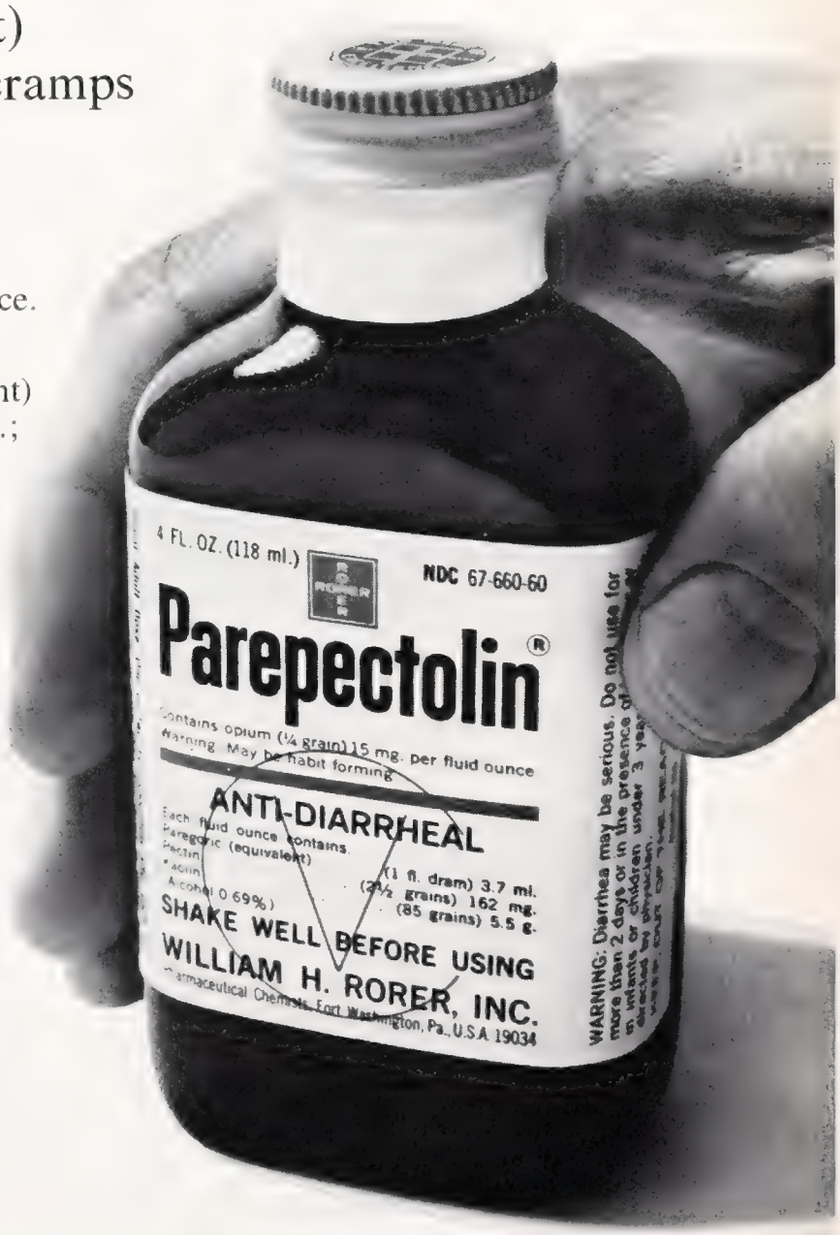

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NEWS

"undecided" pending action by the TMA House of Delegates.

Approximately two-thirds of state medical societies have authorization from their governing bodies to become involved in PSRO activities.

Thirty-five percent of the state societies prefer an administrative arrangement in which the state society would implement and operate PSROs within its area as the prime contractor. Another preferred option was one in which the state society would act as an umbrella organization to coordinate PSRO activities with the actual operation taking place at the county level.

Council asks Bylaws changes for new sections, committee

The TMA Council on Constitution and Bylaws, meeting in Austin on Jan. 20, proposed changes in the Association's Bylaws in accordance with recommendations of the Councils on Annual Session and Scientific Advancement and the Executive Board that two new scientific sections and one new committee be created.

The Council recommended that Chapter IX, Section 1, page 17 of the Bylaws be amended to substitute the title, "Section on Psychiatry" for the Section on Nervous and Mental Diseases. In addition, they recommended the formation of new Sections on Neurology and Neurosurgery and on Urology.

Acting on a recommendation of the Council on Scientific Advancement, the Council recommended that a Section 6 (i), page 15, be added to Chapter VIII of the Bylaws including a Committee on Nutrition under the Council on Scientific Advancement. The Committee on Nutrition shall be a standing committee and "shall stimulate, sponsor and promote a more practical education of medical students, house staff, practicing physicians and the general public about nutrition, to elevate nutrition standards among all citizens."

The Council also recommended amendments to Chapter X, Section 5, page 18, line 7 to include provisions which would allow members who reside *or* practice in a given area to be eligible for membership in a branch of a county medical society. The Bylaws change would involve substituting the word "or" for the word "and" between the words, "reside" and "practice" in that section.

Finally, the Council recommended alterations in the manner of listing the scientific sections in the Bylaws. The change would consist of listing the sections alphabetically instead of by number; deleting the words "Section on" from each title in the list; and capitalizing the word "Sections" in the first sentence.

The exact Bylaws change would be to amend Chapter IX, Section 1, pages 16 and 17 to read, "The scientific program for the Annual Session shall be divided into the following Sections:" This would be followed by an alphabetical listing of each section, eliminating the words "Section on."

The amendments will be voted on at TMA's Annual Session to be held in Dallas May 3-6. The House of Delegates will also vote on three Constitutional changes. Those changes were published in the February issue of *Texas Medicine*.

Med students get practice tips at TMA-sponsored conferences

Again this year, the Texas Medical Association is sponsoring medical practice seminars for senior medical students at Texas schools. The first of four scheduled conferences was held March 30 at The University of Texas Medical School at San Antonio.

Each of the four conferences will include presentations on internship and residency training, practice opportunities and physician distribution in Texas, tips on establishing a practice, county medical society activities, medical and health legislation, and

medicine and government.
The conferences also include a dinner program where a featured speaker is presented. TMA President Braswell Locker was the featured speaker at the San Antonio program.
Other medical practice conferences are scheduled for Baylor College of Medicine in Houston on April 13; The University of Texas Medical Branch at Galveston, April 14; and The University of Texas Southwestern Medical School at Dallas April 27. TMA Past President James H. Sammons will be the featured speaker in Houston and Galveston, while Dr. Charles Max Cole of Dallas will speak to Southwestern seniors.

Medicare disclosure rule amended after protests

An amendment to the Medicare regulations which was protested last fall by the Texas Medical Association and other medical groups has been modified, apparently in response to those protests.
The regulation in question, as amended last fall, would have permitted disclosure to the public of the name of a provider of services who "has been found by a carrier or intermediary, after appropriate professional consultation, to have been engaged in a pattern of furnishing services to such beneficiaries which are substantially in excess of their medical needs."
The regulation as modified imposes a condition to the circumstances under which the name of the provider can be disclosed to the public. The new regulation states that disclosure "can be made only after consultation with a professional medical association functioning external to program administration, or, if appropriate, the State medical society." The section has further been modified to require that a physician's name may not be disclosed unless the physician "has first been afforded a reasonable opportunity to offer evidence on his behalf."
TMA President Braswell Locker, writing last fall on behalf of the Association, protested the original amendment on the grounds that it allowed the carrier to choose anyone it pleased for "professional consultation"—even a registered nurse. Dr. Locker said that disclosure based solely on utilization review data could invoke "unwarranted and unjust" conclusions, and that the real facts of such a case could be determined only by a "complete, thorough and impartial investigation by physician peers from the area and same type of practice."
A request by TMA that the original amendment be changed to include the provision that services rendered in excess of medical needs must have been accomplished with intent to commit fraud before the release of provider's name was not included in the newly-amended regulation.
The amended regulation was published in the March 19 (vol. 38, no. 52) issue of the *Federal Register*.
The report on Dr. Locker's letter of protest was published in the November, 1972, issue of *Texas Medicine*.

TMA urges Texas senators to vote against S. 14

A letter expressing the opposition of the Texas Medical Association to S. 14, the Health Maintenance Organization and Resources Development Act of 1973, has been sent to Texas Sens. Lloyd Bentsen and John Tower.
Sponsored by Sen. Edward M. Kennedy, D-Mass., S. 14 would provide federal aid for the development, establishment, and operation of HMOs and other health care delivery systems, and also would provide for a system of malpractice insurance and arbitration. The bill has been reported out of the Health Subcommittee and is now being considered before the full Labor and Public Welfare Committee. It is expected that the bill will be reported to the Senate floor for action.

NEWS

Explaining the opposition of Texas physicians to S. 14, Dr. Braswell Locker, TMA president, says that the estimated $5 billion cost of implementing the provisions of the bill (over a three-year period) represents an extremely large subsidy for an "unproven program." Dr. Locker notes that HMO advocates claim their system is more economical than other forms of health care delivery, and, in the letter, points out that if the system is so economical, it should not require a subsidy.

Dr. Locker also contends that the payment of enrollment premiums for individuals in an HMO would be discriminatory against those who do not enroll. He calls it "a form of national health insurance for certain persons only." He adds that S. 14 also offers concern because it would preempt existing state laws.

Dr. Locker says that a more sound approach to the HMO situation would be the completion of present grant projects so that "meaningful experience" with various HMO concepts can be gained before granting a large subsidy to what the TMA maintains is an unproven concept.

TMA joins Texans in observing April as VD Awareness Month

The month of April has been proclaimed VD Awareness Month by Texas Gov. Dolph Briscoe, who urges in his proclamation that the citizens of Texas "join with the Texas Medical Association, Texas Pharmaceutical Association, the Texas State Department of Health and all community agencies . . . in their efforts to eradicate venereal disease in Texas."

The proclamation also urges citizens to educate themselves on the subject of VD, and to this end, press kits and radio and television spots are being prepared for use during the month-long observance.

In the text of the proclamation, Gov. Briscoe notes that Texas is in the midst of an epidemic of venereal disease, having experienced 250,000 cases of gonorrhea in the past year. The proclamation also notes that the Texas State Department of Health has launched a massive screening program which is proving effective in reducing the incidence of syphilis, and that the medical and pharmaceutical professions have long been engaged in education of the public about VD, thus helping to combat its spread.

FDA limits indications for use of amphetamines

Under new regulations which took effect March 14, 1973, the Food and Drug Administration has limited recognition of indications for the use of amphetamines, dextroamphetamine, and their salts to three areas. The new regulations were first published in the Feb. 12 (vol. 38, no. 28) edition of the *Federal Register*.

The recognized indications are: Narcolepsy; minimal brain dysfunction in children as an aid to general management; and management of exogenous obesity as a short-term adjunct in a regimen of weight reduction based on caloric restriction for patients in whom obesity is refractory to other measures.

New labeling requirements stating these uses will be required and regulatory proceedings will be begun with regard to any drug covered by the act which is not in accord with the regulations.

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Are there significant differences in bioavailability and clinical predictability among drug products?

Opinion

Results of a questionnaire to 7,000 physicians:

44.6%
Agree there is a significant difference

24.9%
Believe there is no difference

30.5%
Had no opinion

Dialogue

Are there significant differences in bioavailability and clinical predictability among drug products?

Teacher of Medicine

Alfred Gilman, Ph.D.
Wm. S. Lasdon
Professor & Chairman
Department of
Pharmacology
Albert Einstein
College of Medicine of
Yeshiva University

I think that there can be a very great distinction between generic drugs and brand name drugs. And that applies to products of original research that have outlived their patent protection as well as to drugs that have long been in the public domain. Let me explain why.

The Importance of the Manufacturing Environment

In terms of formulation, quality control, and the ability to reproduce an essentially identical product, batch after batch, I doubt that many firms are properly equipped to put out a product that is as carefully controlled as the product marketed by a pharmaceutical company with sophisticated research and high quality manufacturing facilities. For example, when a company comes out with its own preparation of a drug that has just lost its patent protection, there is no assurance that the drug it produces will be a therapeutic equivalent. The raw material could be identical and yet bioavailability might vary from complete unavailability to that which is equivalent to the original.

It Isn't Enough to Meet USP and NF Standards

Meeting USP and NF standards is not enough to guarantee therapeutic equivalence. In certain instances, stricter standards must be applied. Right now, the New York Heart Association has a committee that is studying the problem of digoxin equivalency. I am certain that they are going to recommend a bioavailability assay of a particular digoxin. Unless this is done, they will not recommend it for purchase or use in New York City hospitals. It represents too much of a hazard. They have gone so far as to recommend a batch-by-batch certification of bioavailability even though the company has been reproducing and marketing a digoxin product through the years.

The Problem of Controlling Bioavailability of Generics

The FDA does not have the manpower to inspect the quality control capabilities of hundreds of houses specializing in generic products. And I don't think that the average pharmacist is knowledgeable or aware of the quality and bioavailability of the infinite numbers of generic preparations. A recommendation has been made that every time a generic house (or for that matter a large pharmaceutical company) markets an already existing drug for the first time, a modified new drug application should be submitted. The manufacturer would have to show that his compound is the therapeutic equivalent of the standard compound in use, assuming that the standard compound is one that has been available for an extended period—say 15 years. This would be one indication that the control of bioavailability is beginning to get the attention that it deserves.

Clinical Predictability More Important Than Pric

Although the question o price has been greatly ex aggerated, it is true tha patients can on occasio save money on generi drugs. But you are not go ing to dare attempt to sav money if it jeopardizes th patient's health. Let's re turn to the example tha has become very prominen in recent years, that of th cardiac glycosides. The are probably the most toxi drugs we use with respec to the small difference be tween a maximally effectiv dose and a toxic dose. Whe you are dealing with drug of this type, the first con cern must be clinical pre dictability. At the risk o variations in bioavailabi ity, it would be sheer foll to try to save the patien what might amount t maybe $10 or $20 a yea The physician cannot man age his patient unless he sure that the drug he i prescribing has the sam positive effect each tim the prescription is renewe This is especially signif cant when the patient take the product, not for month but for the rest of his life.

Maker of Medicine

C. J. Cavallito, Ph.D.
Executive Vice President
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Although equivalence of fferent preparations of a *ug substance* may be de- ied by certain physical, emical or biological char- teristics, identity is not ways assured even though ese characteristics may described in compendia ch as the USP, NF or de- ned by other specific urce standards. More- er, even with equivalent ug substances, similar harmaceutical *products* n be produced by differ- nt manufacturers such at these products are bio- gically or therapeutically equivalent.

A Growing Awareness of Potential for Nonequivalence

As experience increases ith drug substances de- ved from different sources nd under different condi- ons, it should be possible establish specifications in fficient detail to minimize ie potential for their non- quivalence. However, here is general agreement iat product therapeutic quivalence would still not e assured even if one could minimize nonequivalence of drug components produced by different manufacturers. Arguments relate largely to the extent of product inequivalences. Experience over the past six years has uncovered a greater incidence of nonequivalence of products prepared by different manufacturers from generically equivalent substances than many had previously surmised.

Newer Bioavailability Studies Reveal Differences

Bioavailability may be defined as a measure of the rate and amount of absorption of a drug substance from its administered dosage form. For several years pharmaceutical scientists have proposed that bioavailability data on presumably equivalent dosage forms provide the best measure of product equivalence—short of adequate clinical trial. In their continued search for shortcuts to the evaluation of product equivalence, medical and pharmaceutical scientists have increasingly relied upon bioavailability characteristics as reflected by blood levels of a drug after its administration to human subjects.

Leading manufacturers now conduct comparative bioavailability studies on their own product dosage forms after production process changes that would have been considered inconsequential a few years ago. This isn't surprising, since there are so many possible differences in production operations that the opportunities for inequivalent generic and brand name products are numerous—even when the production process begins with identical chemical substances. Moreover, reputable manufacturers are striving to improve *in vitro* control measures, such as dissolution characteristics, which are being related more meaningfully to bioavailability reference data.

As a result of advances in scientific instrumentation and analytical methodology which permit measurements of small quantities of drug substances in the body, our abilities to detect differences in bioavailability and possible therapeutic nonequivalance have appreciably improved.

Product Selection Based on Patient Response

Improved specifications and standards can better assure the equivalence of *drug substances*. Manufacturers, compendia and regulatory agencies can all play a part. However, it is the *drug product*, not the *drug substance*, that the physician, pharmacist, nurse and patient-customer utilize. How can these individuals make or influence specific product selections to minimize variations in therapeutic equivalence of multisource drugs? Patients' responses to a drug product provide a basis of experience to aid the physician in his selection of a particular product. The nurse and pharmacist can also help detect patient responses, but ultimate responsibility must remain with the physician.

Reputation of Manufacturer as Basis for Product Selection

The physician, to assure that his patients receive quality health care, must rely upon the capabilities of the reputable pharmaceutical manufacturer who is equipped to develop, prepare and control a quality product of uniform, reliable therapeutic performance. Substitution with purportedly equivalent generic products that are only superficially evaluated by an imitator manufacturer can place the health of the patient secondary to factors of price or convenience for the provider.

Opinion & Dialogue

What is your opinion, doctor?
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CONTRAINDICATIONS: Not for use in the external ear canal if the eardrum is perforated. This product is contraindicated in those individuals who have shown hypersensitivity to any of the components.

PRECAUTION: As with other antibiotic preparations, prolonged use may result in overgrowth of nonsusceptible organisms and/or fungi. Appropriate measures should be taken if this occurs. Articles in the current medical literature indicate an increase in the prevalence of persons allergic to neomycin. The possibility of such a reaction should be borne in mind.

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FDA proposes additions to x-ray equipment regulations

The Food and Drug Administration is proposing additional requirements for the Radiation Control for Health and Safety Act regulations. As they stand now, the regulations call for improvements in all diagnostic x-ray equipment produced after Aug. 15, 1973, in order to reduce patient and operator exposure.

The new proposals, published in the Feb. 28, 1973, issue of the *Federal Register*, apply to used machines and the installation of new components. The proposal would require that all used diagnostic x-ray machines which are reassembled and sold after next Aug. 15 meet the same standard of radiation safety performance that now applies to new equipment made after that date. The FDA says this action will be taken by adding a declaration of policy to the regulations, and is aimed at "reducing the public health hazard posed by the continued use of older x-ray machines." The agency claims that up to 40% of diagnostic x-ray machine sales are estimated to involve used equipment.

An additional proposal, published in the same issue of the *Federal Register*, would prohibit the installation after Aug. 15 of uncertified major components into an x-ray system comprised entirely of major components already certified as being in compliance with the standard. This regulation, the FDA says, would assure compatibility of certified system components.

The used equipment policy specifically would require that any person or company that "reassembles, rebuilds, or refurbishes" diagnostic x-ray equipment after Aug. 15 "must do so in a manner that insures that the equipment will comply with the standard even if its major components were made before Aug. 15." The policy would not apply to equipment moved and reassembled in a new location without a change in ownership.

Comments on the proposals must be filed by April 26 with the Hearing Clerk, US Department of Health, Education and Welfare, Room 6-88, 5600 Fishers Lane, Rockville, Md. 20852.

TMA honors Dr. J. B. Copeland

The Texas Medical Association has passed a resolution honoring Dr. J. B. Copeland, recently-retired Deputy Commissioner of Health for the State of Texas. The resolution was presented to Dr. Copeland by TMA President Braswell Locker and Board of Trustees Chairman John M. Smith, Jr., at the Jan. 21 meeting of the TMA Executive Board.

The resolution notes Dr. Copeland's many achievements as a physician, and states, "Resolved that we, his colleagues and friends, recognize Dr. J. B. Copeland for his astute evaluation of problems, his sound judgment at all times, his ability to help medicine to achieve its objectives, and most of all, for his unselfish dedication to the entire profession."

Among Dr. Copeland's achievements which are cited in the resolution is his service as deputy commissioner of health since 1963; as a delegate to the AMA, and member of several AMA committees; as a member of the Texas State Board of Health for 12 years, 9 years of which he served as chairman of the board; as past president of the Bexar County Medical Society; and as the founder and first president of the Texas Academy of General Practice, now the Texas Academy of Family Physicians.

In addition, Dr. Copeland is cited for his 33 years of service to his patients in San Antonio; his service as superintendent of Robert B. Green Hospital in San Antonio, as assistant Bexar County Health officer, and as director of public health for Bexar County; and as a member of the Texas Medical Association since 1933, during which time he served on numerous TMA councils and committees.

Dr. Copeland became the fourth Texan in AMA history to be elected to the AMA Board of Trustees. He served the board as secretary and secretary treasurer of the AMA.

Dr. Copeland, left, and Dr. John Smith, chairman of TMA's Board of Trustees, wit Dr. Copeland's citation.

NEWS

Executive Board acts on proposals of tax-financed health care council

Several recommendations of the Council on Tax-Financed Health Care Programs and the Council on Medical Service and Insurance have been adopted by the TMA Executive Board.

Recommendations were accepted concerning a common data set for claims forms, an educational program for Current Procedural Terminology (CPT), and the method of computation of "usual, customary, and reasonable" fees for the Federal Employees Program (FEP) and Blue Shield private business.

Recommendations in the latter area were made jointly by the two councils. They included:

that "usual, customary and reasonable" be defined as the 90th percentile of the "usual" and the 90th percentile of the "customary or prevailing" fee;

that the data base content include all programs, private and governmental;

that profiles of the individual physician for his usual charge be available on request of the individual physician;

that the data base on charges be updated every six months based on charge data for the preceding 12 months;

that data relating to private programs be available to peer review and PSRO organizations;

that the geographic regions and the methodology of peer review group determination be available for review and discussion by the appropriate TMA organizational unit;

that any change in physician charges which might affect Phase III guidelines remain the individual physician's responsibility; and

that no "hold harmless" clause will be included in contracts negotiated by Texas Blue Cross-Blue Shield.

The Executive Board, upon recommendation of the Council on Tax-Financed Health Care, adopted the following set of components for a common data set for information which a physician must furnish on a claims form: date of service; place of service; procedural code; diagnosis; physician's charge; physician's signature; patient identification; physician's identification number; and whether the service was assignment or not.

The Council aiso proposed that the Association begin a six-month educational program requesting all physicians to use Current Procedural Terminology. The program would begin with the 1973 Annual Session in Dallas.

A joint national conference, sponsored by TMA and AMA was proposed, to be held in Texas.

The Council asked that the Board of Trustees be directed to provide funds for the educational program and the portion of expenses which TMA may accrue from the joint national conference.

UNIT VALUES FOR TMA MEMBERS RETIREMENT PLAN AND TRUST

(As a service to participants in the TMA Members Retirement Plan and to physicians interested in enrolling in the program, comparative values for investments are listed. Figures shown are the latest available at press deadline and are for comparison purposes only. Most daily newspapers list up-to-the-minute values on mutual funds.

Investment media	Original price 9-30-68	Net asset value per share 2-28-73	Net asset value per share 2-28-73*
Mercantile National Bank Stock Fund	$10.25	$11.87	$11.87
Loomis-Sayles Capital Development Fund	14.20	13.29	15.46
T. Rowe Price Growth Stock Fund	25.93	29.27	33.81
Loomis-Sayles Mutual Fund	16.82	14.94	19.51
Stein Roe & Farnham Balanced Fund	23.34	22.78	30.27
Mercantile Bank Fixed Income Fund	10.00	11.66	11.66

*Adjusted to include dividends and distributions since 9-30-68.

Cutter recalls Ringers injection

An article in the *Washington Report on Medicine and Health* reports that Cutter Laboratories is recalling 6,500 bottles of dextrose 5% lactated Ringers injection, lot number TK4596 (followed by A,B, or C), distributed in Texas.

Although no causal relation has been established, the Food and Drug Administration launched an investigation when three women in a Milwaukee hospital developed septicemia after being given fluid from this batch post operatively. One of the women died.

Bonte, Crawford new deans at Southwestern, UTMSSA

Two Texas medical schools have named new deans in recent weeks. Dr. Stanley E. Crawford has been named dean of The University of Texas Medical School at San Antonio, and in Dallas, it was announced that Dr. Frederick J. Bonte will serve in the post of dean at The University of Texas Southwestern Medical School at Dallas.

Dr. Crawford, whose appointment was effective March 1, has been serving as acting dean of the San Antonio school. He is also professor and chairman of the Department of Pediatrics, and has been on the medical school faculty since 1968.

Dr. Crawford is also pediatrician-in-chief of the Bexar County Hospital District teaching hospitals. He has served on committees of the American Medical Association and the American Academy of Pediatrics, and was recently elected to the American Board of Pediatrics, which he serves as an official examiner.

Dr. Bonte, chairman of the Department of Radiology at Southwestern, replaces Dr. F. Douglas Lawrason, who has been serving as acting dean. As dean, Dr. Bonte will retain his faculty appointment in the radiology department and will continue to participate in nuclear medicine research.

A leader in his field nationally, Dr. Bonte is chairman of the nuclear medicine section of the American Board of Radiology. He is a founding trustee of the American Board of Nuclear Medicine and has served on the National Council on Radiation Protection.

New list gives officers, titles of UT Health Science Centers

Because of recent name changes and personnel shifts in the medical components of The University of Texas System, many have become confused over the proper names for each of the institutions as well as the names of the various administrative officers.

Texas Medicine has obtained a current correct listing for each institution, which follows.

The University of Texas Health Science Center at Dallas consists of The University of Texas Southwestern Medical School at Dallas, The University of Texas Graduate School of Biomedical Sciences at Dallas, and The University of Texas School of Allied Health Sciences at Dallas.

President of the Dallas school is Dr. Charles C. Sprague. Dr. Frederick Bonte is dean of Southwestern Medical School; Dr. Parkhurst Shore is acting dean of the Graduate School of Biomedical Sciences; and Dr. John Schermerhorn is dean of the School of Allied Health Sciences.

The University of Texas Medical Branch at Galveston is made up of five components: The University of Texas Medical School at Galveston, The University of Texas Graduate School of Biomedical Sciences at Galveston, The University of Texas School of Allied Health Sciences at Galveston, The University of Texas Marine Biomedical Institute at Galveston, and

Dr. Bonte

Dr. Crawford

NEWS

The University of Texas Hospitals at Galveston.

Dr. Truman G. Blocker, Jr., is president of the Medical Branch. Dr. Joseph M. White is dean of the medical school. Dr. Edward N. Brandt, Jr., is acting dean of the School of Biomedical Sciences; Dr. Robert K. Bing is dean of the School of Allied Health Sciences; Dr. Stewart Wolf is director of the Marine Biomedical Institute; and Mr. David E. Hoxie is administrator of the UT Hospitals.

Dr. John V. Olson is acting president of The University of Texas Health Science Center at Houston, which has six components. They are: The University of Texas Medical School at Houston, Dr. Cheves McC. Smythe, dean; The University of Texas Dental Branch at Houston, Dr. Ben McKinney, acting dean; The University of Texas Graduate School of Biomedical Sciences at Houston, Dr. Alfred Knudson, dean; The University of Texas School of Allied Health Sciences at Houston, no dean appointed; The University of Texas School of Public Health at Houston, Dr. Reuel A. Stallones, dean; and The University of Texas Speech and Hearing Institute, Dr. Tina Bangs, dean.

Dr. Frank Harrison is president of The University of Texas Health Science Center at San Antonio, with four components. They are: The University of Texas Medical School at San Antonio, Dr. Stanley Crawford, dean; The University of Texas Dental School at San Antonio, Dr. J. D. Robertson, acting dean; The University of Texas Graduate School of Biomedical Sciences at San Antonio, Dr. Armand J. Guarino, dean; and The University of Texas School of Allied Health Sciences at San Antonio, no dean appointed.

There are three components of The University of Texas System Cancer Center. Dr. R. Lee Clark, Houston, is president. Dr. Robert C. Hickey heads The University of Texas M.D. Anderson Hospital and Tumor Institute at Houston; and Dr. Joseph Kennedy is director of The University of Texas Environmental Science Park at Smithville.

The University of Texas System School of Nursing is headed by Dr. Marilyn D. Willman, Austin. The six nursing schools and their deans are: The University of Texas School of Nursing at Austin, Miss Billye J. Brown, dean; The University of Texas School of Nursing at El Paso, Miss Christine Bonds, dean; The University of Texas School of Nursing at Fort Worth, Mrs. Myrna Pickard, dean; The University of Texas School of Nursing at Galveston, Mrs. Dorothy Damewood, dean; The University of Texas School of Nursing at Houston, Mrs. Elizabeth Jones, dean; and The University of Texas School of Nursing at San Antonio, Dr. Margretta Styles, dean.

Over 1,000 residents train for family practice

The American Academy of Family Physicians' recent annual survey of family practice residency programs shows that 1,015 recent medical school graduates are training to be family physicians.

This figure almost doubles the number enrolled in family practice residency programs a year ago. It is three times more than were in training in 1970.

The survey also indicates that 81% of the available first-year family practice residency slots are filled, bettering by 10% the figure in 1971. This percentage of filled first year slot is higher than that for most other medical specialties, says the AAFP. Three years ago, there were 20 approved programs. There now are 107. Currently, there are 34 departments and 31 divisions of family practice in the nation's 105 medical schools.

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NEWS

Dr. Fratis L. Duff named deputy commissioner of health

Dr. Fratis L. Duff, formerly deputy commissioner for program planning at the Texas State Department of Health, has been appointed to the position of deputy commissioner. Dr. Duff succeeds Dr. J. B. Copeland who retired Feb. 1.

Dr. Philip W. Mallory, formerly assistant director for five of the state's 10 Tuberculosis Control Regions, and coordinator of the State Health Department's Chest Hospitals, has been appointed the new deputy director for Program Planning.

Dr. Duff has served as deputy commissioner for program planning since 1969. He is responsible for developing the state-wide Public Health Region system. There are presently three regions in operation, with two others scheduled to become operational in 1974.

Dr. Duff was graduated from the University of Oklahoma Medical Center in Oklahoma City with an MD degree in 1933. In addition, he holds Master of Public Health and Doctor of Public Health degrees from Johns Hopkins School of Hygiene and Public Health.

Board of Medical Examiners issues 130 licenses after exams

The Texas State Board of Medical Examiners, meeting Jan. 13-14 in Fort Worth, issued 130 licenses by examination.

Of these, 46 were from Texas schools, 72 were foreign graduates, and 12 were from out-of-state schools. The total number of failures was 26.

In addition, 76 reciprocity applicants, 13 of whom were foreign graduates, were approved for licensure. Three duplicate licenses were issued.

Examination for applicants took place Dec. 9-13 in Austin, where 337 applicants took the exam. Of these, 181 were pre-clinicals; 4 were clinicals, 75 were fulls; 35 were foreign re-repeats.

In board actions at the two meetings, the board cancelled and revoked one license; cancelled and stayed the order of cancellation of two licenses; cancelled one license for non-payment of annual fees; reinstated six licenses, and issued one reprimand.

PHS no longer requires yellow fever vaccination

The US Public Health Service recently eliminated yellow fever vaccination requirements for travelers entering this country, making the smallpox the only vaccination now required for persons arriving from international travel.

However, reports *American Medical News*, the PHS is continuing to recommend yellow fever vaccination for the protection of US travelers going to areas where the disease is still being reported. Yellow fever is endemic in some countries in South America and Africa.

The elimination of yellow fever vaccination requirements follows removal of mandatory cholera vaccination in 1970 and the revision of smallpox requirements in 1971. The latter is now required only for persons who have been in a country reporting smallpox within the preceding 14 days.

American Lung Association new name of 69-year-old agency

American Lung Association will be the new name of the National Tuberculosis and Respiratory Disease Association. The new name will become effective at the opening of the association's annual meeting in New York City this May.

"We're taking this action," said Montana Supreme Court Justice John C. Harrison, president of the association, "so that our Christmas Seal-supported program to combat both disease and environmental threats to the

human lung can be applied more effectively to serve the public. The shorter name will be more readily recognized and remembered."

The American Lung Association will retain the double-barred cross symbol of the National Tuberculosis and Respiratory Disease Association. The symbol is featured in the annual Christmas Seal campaign, which provides the major portion of the association's income. In addition, the slogan, "It's a matter of life and breath" will be retained.

Justice Harrison said the national association's constituent organizations, located in each state, as well as their local affiliates, are expected to change their names to conform with the national action by June 1 or shortly thereafter.

The name change, besides being simpler, was also made to reflect the association's broad-based fight against all diseases which interfere with breathing, especially emphysema and chronic bronchitis, and environmental factors such as air pollution and cigarette smoking.

FDA requires all blood banks to register for inspection

Practically every blood bank in the nation will have to register by April 1 for an inspection by the Food and Drug Administration, reports *American Medical News*.

The requirement is the result of recently-published new regulations which expand the FDA's inspection responsibilities from approximately 500 federally licensed operations to the more than 5,400 US blood banks and transfusion services.

According to *American Medical News*, the highlights of the new regulations include:

All blood banks and firms "collecting, manufacturing, preparing, or processing human blood or blood products" must have registered by April 1. This includes banks involved only in intrastate commerce.

Registered banks will not be exempt from federal inspection, even though they participate voluntarily in the inspection program of the American Association of Blood Banks.

Prescribing of blood is part of the practice of medicine, and is not regulated by the new rules. Blood banking, says the FDA, does not constitute the practice of medicine, even when supervised by physicians. Therefore, the agency says regulating blood banking in no sense regulates the practice of medicine.

Registration will not be considered a license to ship blood in interstate commerce. There is no statutory authority to license intrastate blood banking. The FDA said registration should not be considered "a prelude to licensing."

All blood banking facilities, whether licensed or not, are required to register.

The American Association of Blood Banks (AABB), which operates as an extensive voluntary inspection program, has criticized the FDA decision as "a useless expenditure of public funds for the FDA to attempt to duplicate our ongoing, successful program."

Even though the FDA will take over all inspection duties, the AABB says it will continue its voluntary inspection program.

AMA journals go all metric

If measuring in metric units causes you trouble, count to ten and try again.

Count to 10, because metric units and sub-units are related by multiples of 10, which is also the basis of our most generally used system of counting, the decimal system.

And try, try again, because the metric system, which has spread over most of the world, is gaining steadily—if slowly—in the United States, as well.

The latest step in this direction is being taken by the *Journal of the American Medical Association*

NEWS

(JAMA) and the 10 AMA specialty journals. Last January, the weekly *JAMA* and the monthly specialty publications began using only metric units of measurement.

Banished are inches and ounces, yards and pounds, pints and degrees Fahrenheit, and all other units of what frequently is called the English or "customary" system. Until now either system has been accepted, although customary units have been accompanied by their metric equivalents in parentheses.

Is the change to metrics likely to cause readers problems?

"Initially," admits Hugh H. Hussey, MD, editor of *JAMA*, "it will be like learning a new language for some physicians, until they get used to the system and learn to think in terms of metric units."

But he adds that it won't be a completely unfamiliar language, because the AMA journals and the medical and pharmaceutical professions have been using metric units increasingly for some years. In fact, the AMA first began urging the use of metric measurements nearly 95 years ago in an official action by the House of Delegates in 1878.

Charles F. Chapman, assistant managing editor of the AMA journals, points out that the elimination of non-metric units will end one source of confusion, that of dealing with measurements in two unrelated systems. In some cases, the systems have even been mixed in the same sentence, as when the dosage of medication is calculated in grams or millimeters per pound of body weight.

"Undoubtedly, we'll run into occasional problems," Chapman says, "but our staff will meet them as they arise. We have been using the all-metric policy in editing manuscripts for a few months already with no trouble so far."

The "Information for Authors" panel that appears in each issue has designated metric as the required system since early fall. Any articles received that use non-metric units, Chapman says, either will have measurements converted to metric by staff editors, or will be returned to the author for correction.

One portion of *JAMA*, the Medical News Section, has been using all-metric measurements for several years.

The section has its own staff of reporters who gather and summarize news of medical interest from around the country, and therefore do not solicit or use outside contributions.

"Most of the people our reporters interview are active in research, so that 80 to 90% of them are using metrics themselves to begin with," explained Jaan Kangilaski, Medical News section editor. "Any measurements we get that are not already in metric, we convert when we write the story."

M.D. Anderson accepting patients for cancer chemotherapy project

The University of Texas M.D. Anderson Hospital and Tumor Institute at Houston has received a contract to develop new chemotherapy regimens for the treatment of carcinoma of the ovary. Patients with advanced ovarian cancer who have not been previously treated with chemotherapy or irradiation are eligible for treatment in the new program, M.D. Anderson spokesmen say.

Travel expenses to Houston, living expenses while there, and medical care at M.D. Anderson will be provided for patients participating in the program.

Physicians who may be interested in sending patients for treatment in this project are requested to write The Office of the Chief of Clinics, The University of Texas M.D. Anderson Hospital and Tumor Institute, 6723 Bertner, Houston 77024, or call area 713-526-5411, ext. 433.

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Warnings: Should be used with caution in patients with cardiovascular disease, including hypertension Development of chest pain or other aggravation of cardiovascular disease will require a decrease in dosage

Injection of epinephrine in patients with coronary artery disease may precipitate an episode of coronary insufficiency. This may be enhanced in patients receiving thyroid preparations. Careful observation is required if catecholamines are administered to patients in this category. Patients with coronary artery disease should be carefully observed during surgery, since the possibility of precipitating cardiac arrhythmias may be greater in those treated with thyroid hormones

Thyroid replacement may potentiate anticoagulant effects with agents such as warfarin or bishydroxycoumarin and reduction of one-third in anticoagulant dosage should be undertaken upon initiation of LETTER® (sodium levothyroxine, Armour) tablets therapy Subsequent anticoagulant dosage adjustment should be made on the basis of frequent prothrombin determinations

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Precautions: Patients with hypothyroidism, and especially myxedema, are particularly sensitive to thyroid preparations so that treatment should begin with small doses and increments should be gradual

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Adverse Reactions: Excessive dosage of thyroid medication may result in symptoms of hyperthyroidism Since, however, the effects do not appear at once, the symptoms may not appear for one to three weeks after the dosage regimen is begun The most common signs and symptoms of overdosage are weight loss, palpitation, nervousness, diarrhea or abdominal cramps, sweating tachycardia, cardiac arrhythmias, angina pectoris, tremors, headache, insomnia, intolerance to heat and fever. If symptoms of overdosage appear, discontinue medication for several days and reinstitute treatment at a lower dosage level
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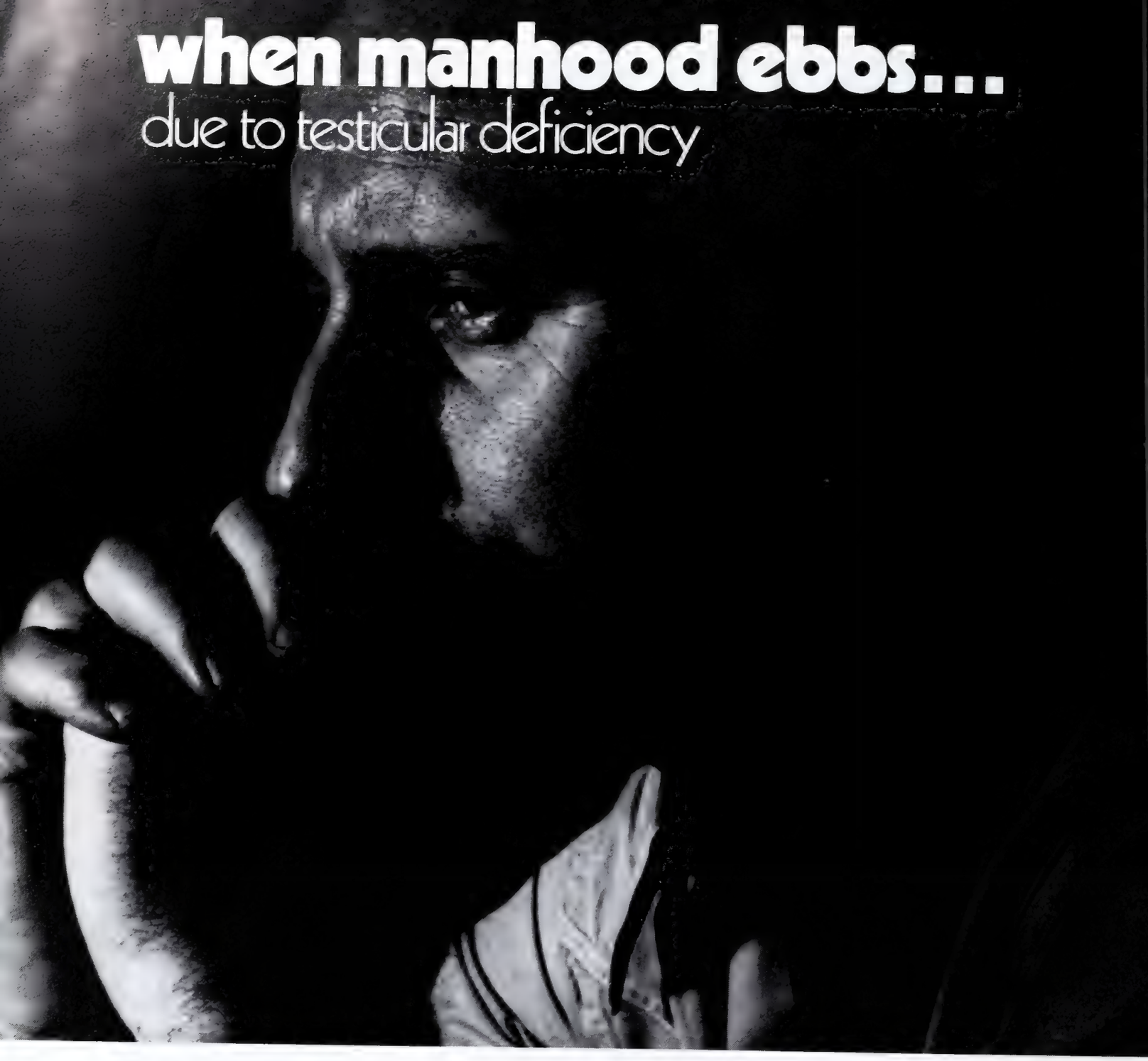

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Contraindications: Carcinoma of the male breast. Carcinoma, known or suspected, of the prostate. Cardiac, hepatic or renal decompensation. Hypercalcemia. Liver function impairment. Prepubertal males. Pregnancy.
Warnings: Hypercalcemia may occur in immobilized patients, and in patients with breast cancer. In patients with cancer this may indicate progression of bony metastasis. If this occurs the drug should be discontinued. Watch female patients closely for signs of virilization. Some effects may not be reversible. Discontinue if cholestatic hepatitis with jaundice appears or liver tests become abnormal.
Precautions: Patients with cardiac, renal or hepatic derangement may retain sodium and water thus forming edema. Priapism or excessive sexual stimulation, oligospermia, reduced ejaculatory volume, hypersensitivity and gynecomastia may occur. When any of these effects appear the androgen should be stopped.
Adverse Reactions: Acne. Decreased ejaculatory volume. Gynecomastia. Edema. Hypersensitivity, including skin manifestations and anaphylactoid reactions. Priapism. Hypercalcemia (especially in immobile patients and those with metastatic breast carcinoma). Virilization in females. Cholestatic jaundice.
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Adjunctive Therapy—Observe Its Effects in 48 hours When the recommended nursing technique is followed without deviation, this procedure can generate visible improvement within 48 hours of treatment. If no dissolution of slough occurs by then, further application is unlikely to be rewarding (recheck for break in procedure, usually due to use of cleansing or antiseptic agents which impair the effectiveness of the enzyme in TRAVASE).

Clinical observation and photos by Kathleen Brough Oldham, M.D., Marion County Home, Indianapolis, Ind.

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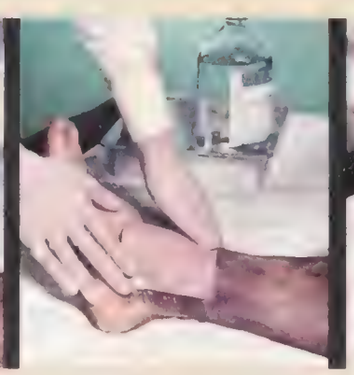
(Ulcer being irrigated) Thoroughly cleanse and irrigate the wound area using **only** sterile water or sodium chloride solution. Be sure to cleanse the wound of any antiseptics or heavy-metal antibacterial agents which may interfere with the enzyme activity.

Thoroughly soak the wound area. Where practical, tubbing or showering is suitable. Or wet soaks with gauze pads may be used. Remember to avoid chemical cleansing agents which may interfere with the therapy.

With a sterile cotton swab or finger cot, apply a very **thin** layer of TRAVASE Ointment. The ointment spreads easily and only a small amount is needed (a small dab of ointment will cover an area as big as the back of a hand).

Be sure, though, to rub the ointment well into every crack or crevice of the wound and overlap the surrounding skin one-fourth to one-half inch beyond the area to be debrided—to be sure of complete coverage.

Apply loose, wet dressings, thoroughly soaked in sodium chloride solution or sterile water to the area to be debrided only.



Cover the moist dressings with an occlusive wrap (Saran wrap, Telfa Pads, or other plastic wrappings) to keep wound site moist. Do not extend occlusive wrap over ½ inch beyond area to be debrided.

When changing dressing, gently wipe away the dissolved material. Repeat the complete dressing procedure, including application of TRAVASE Ointment, four times daily.

The ulcer shown in these photos is simulated on a model in order to demonstrate the correct TRAVASE application technique.

To: FLINT LABORATORIES
Division of Travenol Laboratories, Inc.
200 Wilmot Road
Deerfield, Illinois 60015

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Please send:

_____ Additional Information on TRAVASE® Ointment (brand of Sutilains)

_____ In-service training program

_____ Comment _____

DESCRIPTION: TRAVASE® (brand of sutilains) Ointment is a sterile preparation of proteolytic enzymes, elaborated by **Bacillus subtilis**, in a hydrophobic ointment base consisting of 95% white petrolatum and 5% polyethylene. One gram of ointment contains approximately 82,000 casei units* of proteolytic activity.

ACTION: TRAVASE Ointment selectively digests necrotic soft tissues by proteolytic action. It dissolves and facilitates the removal of necrotic tissues and purulent exudates that otherwise impair formation of granulation tissue and delay wound healing (4).

At body temperatures these proteolytic enzymes have optimal activity in the pH range from 6.0 to 6.8.

INDICATIONS: For wound debridement (1,2)—TRAVASE Ointment is indicated as an adjunct to established methods of wound care for biochemical debridement of the following lesions:

Second and third degree burns,
Decubitus ulcers,
Incisional, traumatic, and pyogenic wounds,
Ulcers secondary to peripheral vascular disease.

CONTRAINDICATIONS: Application of TRAVASE (brand of sutilains) Ointment is contraindicated in the following conditions:

Wounds communicating with major body cavities,

Wounds containing exposed major nerves or nervous tissue,

Fungating neoplastic ulcers,

Wounds in women of child-bearing potential—because of lack of laboratory evidence of effects of TRAVASE upon the developing fetu

Do not permit TRAVASE Ointment to come into contact with the eyes. In treatment of burns or lesions about the head or neck, shoul the ointment inadvertently come into contact with the eyes, the eyes sho be immediately rinsed with copious amounts of water, preferably sterile.

PRECAUTIONS: A moist environment is essential to optimal activity of t enzyme. Enzyme activity may also be impaired by certain agents. **In vitr** several detergents and antiseptics (benzalkonium chloride, hexachlorophene, iodine, and nitrofurazone) may render the substrate indifferent to the action of the enzyme (3). Compounds such as thimeros containing metallic ions interfere directly with enzyme activity to a slight degree, whereas neomycin, sulfamylon-streptomycin, and penicilli do not affect enzyme activity. In cases where adjunctive topical therapy has been used and no dissolution of slough occurs after treatment with TRAVASE Ointment for 24 to 48 hours, further application, because of interference by the adjunctive agents, is unlikely to be rewarding.

In cases where there is existent or threatening invasive infection, appropriate systemic antibiotic therapy should be instituted concurrently

Although there have been no reports of systemic allergic reaction in humans, studies have shown that there may be an antibody response in humans to absorbed enzyme material.

ADVERSE REACTIONS: Adverse reactions consist of mild, transient pai paresthesias, bleeding and transient dermatitis. Pain usually can be controlled by administration of mild analgesics. Side effects severe enough to warrant discontinuation of therapy occasionally have occurre

If bleeding or dermatitis occurs as a result of the application of TRAVA (brand of sutilains) Ointment, therapy should be discontinued. No syste toxicity has been observed as a result of the topical application of TRAVASE Ointment.

Dosage and Administration

STRICT ADHERENCE TO THE FOLLOWING IS REQUIRED FOR EFFECT RESULTS OF TREATMENT

1. Thoroughly Cleanse and Irrigate Wound Area with sodium chlo or water solutions. Wound **MUST** be cleansed of antiseptics or heavy-metal antibacterials which may denature enzyme or alter substrate characteristics (e.g., Hexachlorophene, Silver Nitrate, Benzalkonium Chloride, Nitrofurazone, etc.).
2. Thoroughly moisten wound area either through tubbing, shower or wet soaks (e.g., sodium chloride or water solutions).
3. Apply TRAVASE Ointment in a thin layer assuring intimate cont with necrotic tissue and complete wound coverage extending to ¼ to ½ inch beyond the area to be debrided.
4. Apply loose wet dressings.
5. Repeat entire procedure 3 to 4 times per day for best results.

How Supplied

3P3002 TRAVASE Ointment is supplied sterile in one-half ounce tubes (14.2 g.) containing 82,000 casein units of sutilains per gram hydrophobic ointment base.

The ointment must be stored under refrigeration at 2° to 10° C (35° to 50° F).

References

1. Garrett, T. A. **Bacillus subtilis** protease, a new agent for debridement Clin. Med. **76:** 11-15, 1969.

2. Hesterberg, R. (Necrosis treatment on fermentative basis). Doctoral dissertation from the Chirurgical Clinic of the University of Munich, Dissertation Printing: Charlotte Schoen, Munich, 1964. (Ger.)

3. Howes, E. L. The healing of the burn may be hindered by its first aid therapy. 20th Cong. Soc. Inter. Chir., Rome, Italy, September 14-23, 196

4. Prytz, B., Connell, J. F., Jr., and Rousselot, L. M. **Bacillus subtilis** protease in the digestion of burn eschar. Clin. Pharmacol. Therap. **7:** 347-51, 1966.

*A casein unit is the amount of enzyme required to produce the same optical density at 275 mμ as that of a solution of 1.5 mcg. tyrosine/ml. after the enzyme has been incubated with 35 mg. of casein at 37° C. fo one minute.

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PRESCRIBING INFORMATION

Antiminth (pyrantel pamoate) Oral Suspension

Actions. Antiminth (pyrantel pamoate) has demonstrated anthelmintic activity against *Enterobius vermicularis* (pinworm) and *Ascaris lumbricoides* (roundworm). The anthelmintic action is probably due to the neuromuscular blocking property of the drug.

Antiminth is partially absorbed after an oral dose. Plasma levels of unchanged drug are low. Peak levels (0.05-0.13μg/ml.) are reached in 1-3 hours. Quantities greater than 50% of administered drug are excreted in feces as the unchanged form, whereas only 7% or less of the dose is found in urine as the unchanged form of the drug and its metabolites.

Indications. For the treatment of ascariasis (roundworm infection) and enterobiasis (pinworm infection).

Warnings. *Usage in Pregnancy:* Reproduction studies have been performed in animals and there was no evidence of propensity for harm to the fetus. The relevance to the human is not known.

There is no experience in pregnant women who have received this drug.

Precautions. Minor transient elevations of SGOT have occurred in a small percentage of patients. Therefore, this drug should be used with caution in patients with pre-existing liver dysfunction.

Adverse Reactions. The most frequently encountered adverse reactions are related to the gastrointestinal system.

Gastrointestinal and hepatic reactions: anorexia, nausea, vomiting, gastralgia, abdominal cramps, diarrhea and tenesmus, transient elevation of SGOT.

CNS reactions: headache, dizziness, drowsiness, and insomnia. Skin reactions: rashes.

Dosage and Administration. *Children and Adults:* Antiminth Oral Suspension (50 mg. of pyrantel base/ml.) should be administered in a single dose of 11 mg. of pyrantel base per kg. of body weight (or 5 mg./lb.); maximum total dose 1 gram. This corresponds to a simplified dosage regimen of 1 cc. of Antiminth per 10 lb. of body weight. (One teaspoonful = 5 cc.)

Antiminth (pyrantel pamoate) Oral Suspension may be administered without regard to ingestion of food or time of day; and purging is not necessary prior to, during, or after therapy. It may be taken with milk or fruit juices. Because of limited data on repeated doses, no recommendations can be made.

How Supplied. Antiminth is available as a pleasant tasting caramel-flavored suspension which contains the equivalent of 50 mg. pyrantel base per ml., supplied in 60 cc. bottles.

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New York, New York 10017

Clean sweep

with a single dose of Antiminth (pyrantel pamoate) ORAL SUSPENSION

Highly effective against pinworm and roundworm

Non-staining to teeth or oral mucosa on ingestion, to stools, clothing, linen

Simple dosage with a single-dose regimen: 1 cc. per 10-lb. body weight (1 tsp./50 lb.; maximum dose, 4 tsp.)

Well-tolerated, based on clinical studies*

Pleasant-tasting, easy-to-take, caramel-flavored oral suspension

Economical, because one prescription can treat the entire family

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ANTIMINTH®
(pyrantel pamoate)

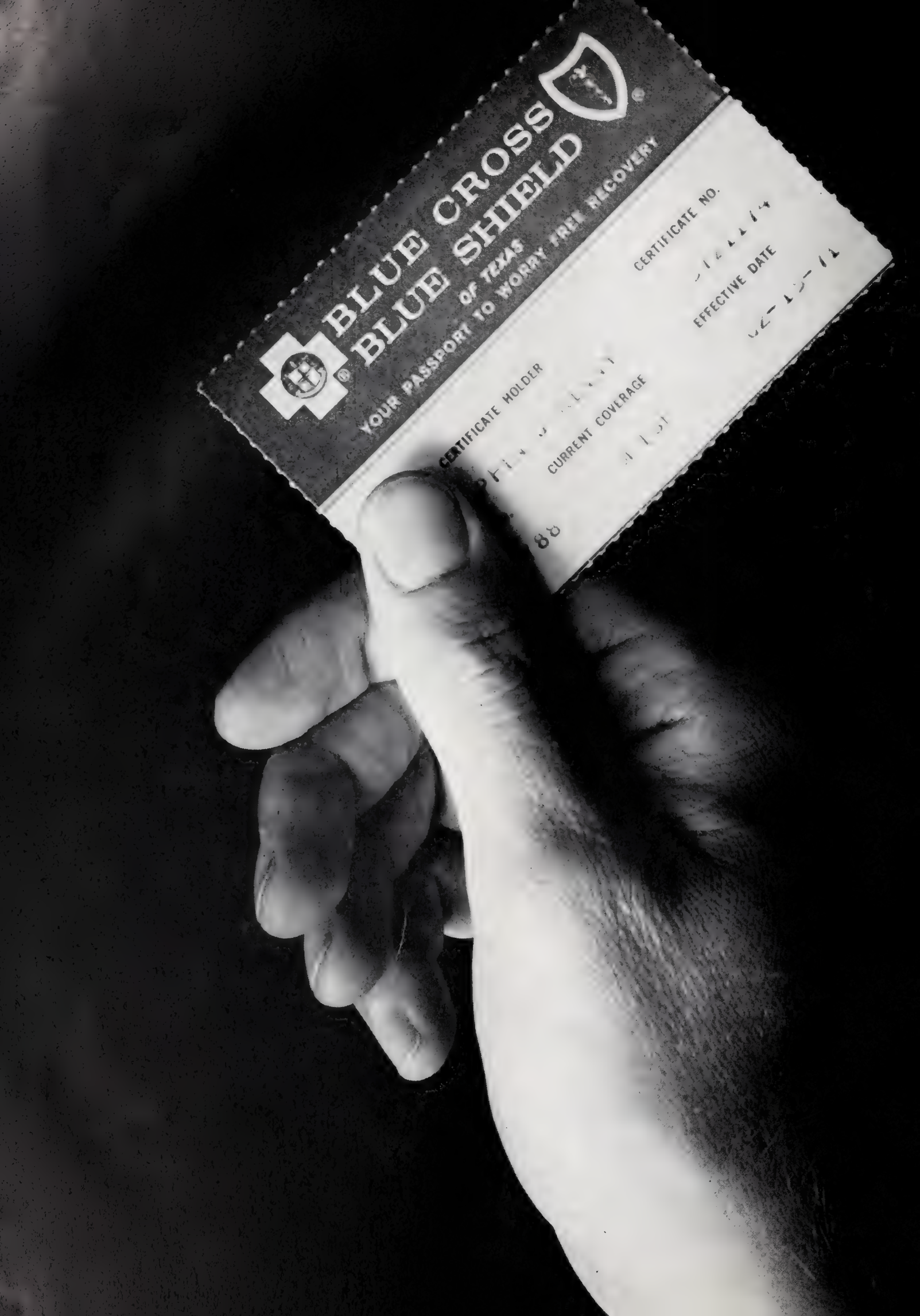
equivalent to 50 mg. pyrantel/ml.

ORAL SUSPENSION

While Antiminth is highly effective against pinworms and roundworms, the illustration is not meant to imply 100% efficacy.

*Data on file at Roerig.

Please see prescribing information on facing page.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Information for authors

Material for *Texas Medicine* may be sent to the Managing Editor, 1801 North Lamar Blvd., Austin 78701. It must be offered solely to this journal. Each paper is reviewed by a consultant specialist and an editorial board, and is accepted or rejected on the basis of its individual merit and the availability of other material.

Manuscripts should be typed double-spaced with ample margins on firm paper. Carbons are unacceptable, but the author should keep a copy.

The *title* should include the words most suitable for indexing the article in "Index Medicus," should stress the main point, and should be brief. Subtitles should not be connected grammatically with the main title.

The *author's names* and degrees should follow the title, and their mailing addresses should be listed at the end of the article.

The *text* should be narrative with complete sentences, *few abbreviations*, and logical subheading. For *spelling and usage* the editors follow "Dorland's Illustrated Medical Dictionary," 24th edition, and "Webster's Third New International Dictionary, Unabridged." *Quotations* must give credit to both author and source. A concise *introductory summary* is required.

Reference lists should contain in this order (1) author's last name, initials, (2) title of article or book, (3) name of journal, (4) volume and inclusive page numbers, written 33:156-160, (5) year. For books, the title should be followed by place of publication, name of publisher, and year.

Illustrations should be black and white drawings or positive photographs, with neat, uniform, fairly large lettering. A label pasted to the back of each illustration should indicate its number, top, author's name, and title of article in brief. *Legends* should be in complete sentences, numbered, and typed on a separate sheet. *Color illustrations* are authorized if they are of special value.

Tables should be typed on separate sheets. Column headings should show points of similarity; side headings, points of difference.

Permission should be obtained from the publishers and the authors for any previously published material (extensive textual matter, illustrations, tables) used. Short verbatim quotations in the text may be used without permission, but should be quoted exactly with the source credited in the bibliography. Copies of permission letters should be submitted with the manuscript.

All material is subject to *editing*, but authors receive typescripts to check before publication. Prompt return of typescripts to *Texas Medicine* office avoids delay in publication. After the article is sent to the printer, only minimal revision may be made.

Reprints are available directly from the printer at an established schedule of costs. Authors automatically receive order blanks when their articles are published.

Editorials should be prepared in the same general manner, and should be written in clear, concise language. They should be 300-500 words in length (about two to three pages typed with double spacing.)

Contributions to the news section should be sent to the Editorial Offices, 1801 N. Lamar Blvd., Austin 78701, by the 5th of the month preceding the month of publication.

PUBLICATION INFORMATION

Texas Medicine is published monthly by the Texas Medical Association.

Contributions, previously unpublished, are welcomed for review. News and other items should be sent to the Editorial Offices by the 5th of the month preceding the month of publication. All contributions are sent at the owner's risk.

Scientific Articles are reviewed by technical and specialist consultants and are selected for publication in Texas Medicine by the Scientific Publication Committee, which is appointed by the Board of Publication. Editorials and other articles are subject to review by officers of the Texas Medical Association, appropriate expert and technical consultants, and representatives of county medical societies when in their purview.

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TEXAS MEDICAL ASSOCIATION 106TH ANNUAL SESSION

Dallas will host the 1973 Annual Session of the Texas Medical Association on May 3-6. The scientific portion of the meeting will include sections on allergy, family practice, internal medicine, ophthalmology, otolaryngology, physical medicine and rehabilitation, radiology, surgery, urology, digestive diseases, diseases of the chest, obstetrics and gynecology, nervous and mental disorders, and nuclear medicine. In conjunction with the programs of the scientific sections and related organizations, the following special programs will be presented: Conference on School Health, Medical History Dinner, Seminar on Hemophilia, Symposium on Cancer, Symposium on Cardiovascular Diseases, Conference on Cardiac and Stroke Rehabilitation, Symposium on Alcoholism, Symposium on Cerebral Palsy, Symposium on Maternal Health, Symposium on Medicine and Religion, Symposium on Trauma, and Symposium on Sports Medicine. Curbstone Consultations and Continental Breakfast Round Table Presentations will offer conference attendants an opportunity to participate in discussions on a variety of topics. Business activities during the annual session will include meetings of the House of Delegates, and of many boards, councils, and committees. See full stories p. 6, and pp. 112, 151.

Contact: C. Lincoln Williston, 1801 N. Lamar Blvd., Austin 78701, executive secretary.

TEXAS HOSPITAL ASSOCIATION

The 44th Annual Convention of the Texas Hospital Association will be held at the Albert Thomas Convention Center in Houston May 19-23. The theme of this meeting will be "Living With Change." Featured as guest speakers will be John Alexander McMahon, president of AHA; Mary Bennett Peterson, author of "The Regulated Consumer"; Hugh Smith, labor attorney, Dallas; William Wallace, president ACHA; and Thomas Tierney, director, Bureau of Health Insurance, Department of HEW.

Contact: Anthony Owens, P. O. Box 4553, Austin 78765, director.

TEXAS HEART INSTITUTE OF ST. LUKE'S EPISCOPAL & TEXAS CHILDREN'S HOSPITALS

The Fourth Annual Cardiovascular Symposium of the Texas Heart Institute of St. Luke's Episcopal & Texas Children's Hospitals is scheduled for May 31-June 2 at the Texas Medical Center in Houston. Guest faculty will include Dr. F. Mason Sones, Jr., Cleveland Clinic Foundation; Dr. James H. Gault, Milton S. Hershey Medical Center, Hershey, Pa.; Dr. Albert A. Kattus, Jr., UCLA Center for the Health Sciences, Los Angeles, Calif.; Dr. Henry C. McGill, Jr., University of Texas Medical School at San Antonio, Tex.; Dr. Dwight C. McGoon, Mayo Clinic, Rochester, Minn.; Dr. R. A. Massumi, University of California, Davis, School of Medicine, Davis, Calif.; and Dr. William P. Nelson, Fitzsimons General Hospital, Denver, Colo. The theme of the symposium—"from cardiovascular physiology to physiologic cardiology"—emphasizes the importance of continuous progress from the experimental laboratory to everyday patient care. The symposium is directed to every physician involved in the care of patients with heart disease—the generalist, the internist, the cardiologist and the cardiovascular surgeon.

Contact: Mrs. Sharon Singleton, Texas Heart Institute, P. O. Box 20269, Houston 77025.

COMING MEETINGS

CURRENT MEETINGS IN TEXAS

AMERICAN MEDICAL WRITERS ASSOCIATION has scheduled its Southwestern Chapter meeting May 5 at the Statler-Hilton Hotel in Dallas. Featured on the program will be Dr. James R. Gay, coordinator, New Mexico Regional Medical Program, Albuquerque, NM. His topic will be "Current Trends in Communication." Contact: Judy Ingram, Scott and White Clinic, Temple 76501, Sec.

AMERICAN PHYSICAL THERAPY ASSOCIATION, INC., Texas Chapter, will hold its annual meeting May 17-20 at the Matador Motel, Waco. Dr. James W. Caldwell, Baylor University Medical Center, and Charles Magistro, National Treasurer, APTA, will be featured speakers. Contact: Mrs. Hilda F. McKethan, 4162 Monaco Drive, Corpus Christi 78411.

R. J. WHITE LECTURE FOUNDATION and the Fort Worth Surgical Society will sponsor the Ninth Annual Joe White Lecture Tuesday, May 8 at River Crest Country Club in Fort Worth. Featured as speaker is Dr. H. William Clatworthy, Jr., professor of pediatric surgery at Ohio State University School of Medicine. Contact: Dr. Dick G. Ellis, Suite 640, 800 8th Ave., Fort Worth 76104.

CURRENT NATIONAL MEETINGS

AEROSPACE MEDICAL ASSOCIATION announces the 44th annual meeting in Las Vegas, Nev., May 7-10. Featured on the program will be noise and vibration, thermal physiology, weightlessness, rescue and survival, cardiopulmonary physiology, acceleration, injuries and accidents, sleep disturbances in aircrew, hypoxia, toxicology, electrocardiography, bioinstrumentation, radiation physiology, decompression, and clinical psychology. Panel discussions will be included in a number of the programs. Contact: Dr. Merrill H. Goodwin, Washington Nat'l. Airport, Washington, DC 20001, exec. sec.

AMERICAN PEDIATRIC SOCIETY, in conjunction with the Society for Pediatric Research and the Ambulatory Pediatric Association, will hold its annual meeting in the San Francisco Hilton Hotel May 16-19. Combined registration fee (APS, SPR & APA)—$15. Contact: Dr. Charles D. Cook, American Pediatric Society, 333 Cedar Street, New Haven, Conn. 06510, Sec.

For other courses and symposiums, see Continuing Education Courses, pp. 53-54.

AMERICAN ASSOCIATION OF SUICIDOLOGY has scheduled its annual meeting at Houston's Marriott Hotel, April 27-29. Topics to be presented at the meeting are: problems of operating suicide prevention centers, anti-suicide techniques for following up after identification of suicidal individuals, and research methodology. Epidemiology and current changes in patterns of suicide will also be discussed, and collected papers in sociology will be presented. Contact: Dr. Eric G. Comstock, PO Box 2565, Houston 77001, Chrmn.

AMERICAN GERIATRICS SOCIETY, in collaboration with The Gerontological Society, will meet April 25-26 in Beverly Hills, Calif. In addition to presentations by guest speakers, there will be scientific exhibits to supplement formal presentations and to explore other facets of geriatric medicine. "Hypotensive Encephalopathy (Midnight Stroke) in the Aged," "Colovesical Fistula," "Peritoneoscopy in Geriatric Patients," "The Evaluation of the Aged Patient," "Gynecological Problems in the Aging Woman," "Treatment of Psoriasis," "Gastrointestinal Bleeding in Geriatric Patients—Diagnosis and Management," and "Problems in Geriatric Health Care Delivery" will be presented. Contact: Dr. Edward Henderson, 10 Columbus Circle, New York 10019, Exec. Dir.

AMERICAN MEDICAL ASSOCIATION's Judicial Council announces that the Fourth National Congress on Medical Ethics will be held April 26-28 at the Washington-Hilton in Washington, DC. Distinguished speakers and panelists will discuss ethical issues of growing concern to medical professionals and society—from the more traditional, such as fee splitting and solicitation—to the more current, such as genetic engineering and behavior control. Contact: AMA, Judicial Council, 535 N. Dearborn St., Chicago 60610.

AMERICAN LUNG ASSOCIATION (formerly National Tuberculosis and Respiratory Disease Association) will present papers on any public health, social or community aspect of respiratory disease submitted by professional or volunteer health workers at a special half-day session of its annual meeting to be held concurrently with the American Thoracic Society meeting May 20-23 in New York City. Topics to be presented will be "A bi-lingual educational program for Mexican-American patients attending chest clinics," "Experiences with smoking withdrawal clinics," "A pilot project integrating tuberculosis services into three emerging neighborhood storefront health clinics," and "A grade school curriculum related to the prevention of heart and lung disease." Contact: Frank J. Donahue, 1740 Broadway, New York, NY 10019, chairman.

AMERICAN PSYCHIATRIC ASSOCIATION will feature topics on mental health and psychopolitics, marijuana and drug abuse, transcultural psychiatry, pregnancy and abortion, suicide, mental health of children, and new models of mental health counseling together with many other interesting topics during its annual meeting which will be held in Honolulu, Hawaii, May 7-11. Also featured on the program will be morning and evening panel discussions as well as sessions on new research. An official booklet containing additional information such as the names of officers of sessions and of discussants, as well as locations, will be distributed in Honolulu at the time of registration. Contact: Dr. Walter E. Barton, 1700 18th St., NW., Washington, DC 20009, Med. Dir.

MEDICAL LIBRARY ASSOCIATION will hold its annual meeting May 27-31 at the Hotel Muehlebach in Kansas City, Kas. The program will include one-day continuing education courses, concurrent circle sessions on special education related problems, and general sessions on the competency of health science librarians, the education needed for academic, hospital and special medical libraries, and the international implications of core libraries. Contact: Helen Brown Schmidt, 919 N. Michigan Ave., Chicago 60611, Exec. Sec.

AMERICAN COLLEGE OF OBSTETRICIANS AND GYNECOLOGISTS 21st annual clinical meeting will be held May 21-24 at the Americana Hotel, Bal Harbour, Fla. This meeting will feature formal papers, reports on current investigations, and specialty meetings on community health, maternal and perinatal medicine, oncology, pediatric and adolescent gynecology, and psychosomatic obstetrics and gynecology. There will be two "Great Debates," breakfast conferences and a full motion picture program. New this year are postgraduate courses throughout the meeting as well as preceding it, and informal curbstone consultations with two authorities on each subject. Also new are self-assessment tests in Clinical Obstetrics and Clinical Gynecology. Registration fee for nonmembers, $125.00. Contact: Donald F. Richardson, American College of Obstetricians and Gynecologists, One East Wacker Dr., Chicago, Ill. 60601, associate director.

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Geigy

Tablets of 100 mg.

Important Note: This drug is not a simple analgesic. Do not administer casually. Carefully evaluate patients before starting treatment and keep them under close supervision. Obtain a detailed history, and complete physical and laboratory examination (complete hemogram, urinalysis, etc.) before prescribing and at frequent intervals thereafter. Carefully select patients, avoiding those responsive to routine measures, contraindicated patients or those who cannot be observed frequently. Warn patients not to exceed recommended dosage. Short-term relief of severe symptoms with the smallest possible dosage is the goal of therapy. Dosage should be taken with meals or a full glass of milk. Patients should discontinue the drug and report immediately any sign of: fever, sore throat, oral lesions (symptoms of blood dyscrasia); dyspepsia, epigastric pain, symptoms of anemia, black or tarry stools or other evidence of intestinal ulceration or hemorrhage, skin reactions, significant weight gain or edema. A one-week trial period is adequate. Discontinue in the absence of a favorable response. Restrict treatment periods to one week in patients over sixty.

Indications: Acute gouty arthritis, rheumatoid arthritis, rheumatoid spondylitis.

Contraindications: Children 14 years or less; senile patients; history or symptoms of G.I. inflammation or ulceration including severe, recurrent or persistent dyspepsia; history or presence of drug allergy; blood dyscrasias; renal, hepatic or cardiac dysfunction; hypertension; thyroid disease; systemic edema; stomatitis and salivary gland enlargement due to the drug; polymyalgia rheumatica and temporal arteritis; patients receiving other potent chemotherapeutic agents, or long-term anticoagulant therapy.

Warnings: Age, weight, dosage, duration of therapy, existence of concomitant diseases, and concurrent potent chemotherapy affect incidence of toxic reactions. Carefully instruct and observe the individual patient, especially the aging (forty years and over) who have increased susceptibility to the toxicity of the drug. Use lowest effective dosage. Weigh initially unpredictable benefits against potential risk of severe, even fatal, reactions. The disease condition itself is unaltered by the drug. Use with caution in first trimester of pregnancy and in nursing mothers. Drug may appear in cord blood and breast milk. Serious, even fatal, blood dyscrasias, including aplastic anemia, may occur suddenly despite regular hemograms, and may become manifest days or weeks after cessation of drug. Any significant change in total white count, relative decrease in granulocytes, appearance of immature forms, or fall in hematocrit should signal immediate cessation of therapy and complete hematologic investigation. Unexplained bleeding involving CNS, adrenals, and G.I. tract has occurred. The drug may potentiate action of insulin, sulfonylurea, and sulfonamide-type agents. Carefully observe patients taking these agents. Nontoxic and toxic goiters and myxedema have been reported (the drug reduces iodine uptake by the thyroid). Blurred vision can be a significant toxic symptom worthy of a complete ophthalmological examination. Swelling of ankles or face in patients under sixty may be prevented by reducing dosage. If edema occurs in patients over sixty, discontinue drug.

Precautions: The following should be accomplished at regular intervals: Careful detailed history for disease being treated and detection of earliest signs of adverse reactions; complete physical examination including check of patient's weight; complete weekly (especially for the aging) or an every two week blood check; pertinent laboratory studies. Caution patients about participating in activity requiring alertness and coordination, as driving a car, etc. Cases of leukemia have been reported in patients with a history of short- and long-term therapy. The majority of these patients were over forty. Remember that arthritic-type pains can be the presenting symptom of leukemia.

Adverse Reactions: This is a potent drug; its misuse can lead to serious results. Review detailed information before beginning therapy. Ulcerative esophagitis, acute and reactivated gastric and duodenal ulcer with perforation and hemorrhage, ulceration and perforation of large bowel, occult G.I. bleeding with anemia, gastritis, epigastric pain, hematemesis, dyspepsia, nausea, vomiting and diarrhea, abdominal distention, agranulocytosis, aplastic anemia, hemolytic anemia, anemia due to blood loss including occult G.I. bleeding, thrombocytopenia, pancytopenia, leukemia, leukopenia, bone marrow depression, sodium and chloride retention, water retention and edema, plasma dilution, respiratory alkalosis, metabolic acidosis, fatal and nonfatal hepatitis (cholestasis may or may not be prominent), petechiae, purpura without thrombocytopenia, toxic pruritus, erythema nodosum, erythema multiforme, Stevens-Johnson syndrome, Lyell's syndrome (toxic necrotizing epidermolysis), exfoliative dermatitis, serum sickness, hypersensitivity angiitis (polyarteritis), anaphylactic shock, urticaria, arthralgia, fever, rashes (all allergic reactions require prompt and permanent withdrawal of the drug), proteinuria, hematuria, oliguria, anuria, renal failure with azotemia, glomerulonephritis, acute tubular necrosis, nephrotic syndrome, bilateral renal cortical necrosis, renal stones, ureteral obstruction with uric acid crystals due to uricosuric action of drug, impaired renal function, cardiac decompensation, hypertension, pericarditis, diffuse interstitial myocarditis with muscle necrosis, perivascular granulomata, aggravation of temporal arteritis in patients with polymyalgia rheumatica, optic neuritis, blurred vision, retinal hemorrhage, toxic amblyopia, retinal detachment, hearing loss, hyperglycemia, thyroid hyperplasia, toxic goiter, association of hyperthyroidism and hypothyroidism (causal relationship not established), agitation, confusional states, lethargy; CNS reactions associated with overdosage, including convulsions, euphoria, psychosis, depression, headaches, hallucinations, giddiness, vertigo, coma, hyperventilation, insomnia; ulcerative stomatitis, salivary gland enlargement.

(B)98-146-800-F (10/71)

For complete details, including dosage, please see full prescribing information.

GEIGY Pharmaceuticals
Division of CIBA-GEIGY Corporation
Ardsley, New York 10502

TA 9041

more than sleep

YOUR CHOICE OF SLEEP MEDICATION IS WISELY BASED ON MORE THAN SLEEP-INDUCING POTENTIAL

Sleep with relative safety

Chronic tolerance studies have confirmed the relative safety of Dalmane (flurazepam HCl); no depression of cardiac or respiratory function was noted in patients administered recommended or higher doses for as long as 90 consecutive nights.

In most instances when adverse reactions were reported, they were mild, infrequent and seldom required discontinuance of therapy. Morning "hang-over" with Dalmane has been relatively infrequent. Dizziness, drowsiness, lightheadedness and the like have been the side effects noted most frequently, particularly in the elderly and debilitated. (An initial dose of Dalmane 15 mg should be prescribed for these patients.)

Sleep for 7 to 8 hours without need to repeat dosage during the night

No sleep medication has been as rigorously evaluated in the sleep research laboratory as Dalmane. Insomnia patients given one 30-mg capsule of Dalmane (flurazepam HCl) at bedtime, on average: fell asleep within 17 minutes, had fewer nighttime awakenings, spent less time awake after sleep onset, and slept for 7 to 8 hours with no need to repeat dosage during the night.

Sleep with consistency—no waning of therapeutic effectiveness

Over multiple nights of therapy, no waning of drug effectiveness was noted. There was consequently no need to increase dosage during the study periods. It stands to reason that the fewer repeat or incremental doses needed to sustain sleep, the lower the total cost of the sleep medication. Consistent effectiveness is the measure of Dalmane (flurazepam HCl) economy.

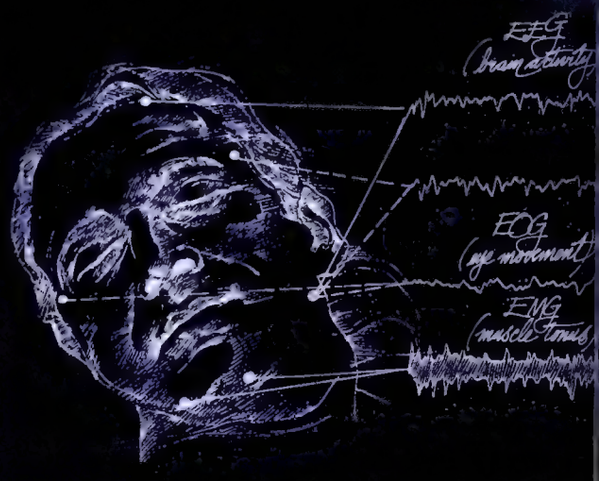
When your evaluation of insomnia indicates the need for a sleep medication, consider Dalmane—a single entity nonnarcotic, nonbarbiturate agent proved effective and relatively safe for relief of insomnia.

DALMANE®
(flurazepam HCl)
When restful sleep is indicated

One 30-mg capsule *h.s.*—usual adult dosage.
One 15-mg capsule *h.s.*—initial dosage for elderly or debilitated patients.

ROCHE

ROCHE LABORATORIES
Division of Hoffmann-La Roche Inc.
Nutley, New Jersey 07110



Before prescribing Dalmane (flurazepam HCl), please consult Complete Product Information, a summary of which follows:

Indications: Effective in all types of insomnia characterized by difficulty in falling asleep, frequent nocturnal awakenings and/or early morning awakening; in patients with recurring insomnia or poor sleeping habits; and in acute or chronic medical situations requiring restful sleep. Since insomnia is often transient and intermittent, prolonged administration is generally not necessary or recommended.

Contraindications: Known hypersensitivity to flurazepam HCl.

Warnings: Caution patients about possible combined effects with alcohol and other CNS depressants. Caution against hazardous occupations requiring complete mental alertness (*e.g.*, operating machinery, driving). Use in women who are or may become pregnant only when potential benefits have been weighed against possible hazards. Not recommended for use in persons under 15 years of age. Though physical and psychologic dependence have not been reported on recommended doses, use caution in administering to addiction-prone individua or those who might increase dosage.

Precautions: In elderly and debilitated, initial dosage should be limited to 15 mg to preclude oversedation, dizziness and or ataxia. If combined with other drugs having hypnotic or CNS-depressant effects, consider potential additive effec Employ usual precautions in patients who are severely depressed, or with

nt depression or suicidal tendencies.
odic blood counts and liver and kid-
function tests are advised during
ated therapy. Observe usual precau-
s in presence of impaired renal or
atic function.

erse Reactions: Dizziness, drowsi-
, lightheadedness, staggering, ataxia
falling have occurred, particularly
derly or debilitated patients. Severe
ation, lethargy, disorientation and
a, probably indicative of drug intoler-
e or overdosage, have been reported.

Also reported were headache, heartburn, upset stomach, nausea, vomiting, diarrhea, constipation, GI pain, nervousness, talkativeness, apprehension, irritability, weakness, palpitations, chest pains, body and joint pains and GU complaints. There have also been rare occurrences of sweating, flushes, difficulty in focusing, blurred vision, burning eyes, faintness, hypotension, shortness of breath, pruritus, skin rash, dry mouth, bitter taste, excessive salivation, anorexia, euphoria, depression, slurred speech, confusion, restlessness, hallucinations, and elevated SGOT, SGPT, total and direct bilirubins and alkaline phosphatase. Paradoxical reactions, *e.g.*, excitement, stimulation and hyperactivity, have also been reported in rare instances.

Dosage: Individualize for maximum beneficial effect. *Adults:* 30 mg usual dosage; 15 mg may suffice in some patients. *Elderly or debilitated patients:* 15 mg initially until response is determined.

Supplied: Capsules containing 15 mg or 30 mg flurazepam HCl.

He won't resist feeling better with Mylanta®

Because the taste is good.

- ☐ promptly relieves hyperacidity
- ☐ also relieves fullness and bloating
- ☐ non-constipating

LIQUID **MYLANTA®** TABLETS

aluminum and magnesium hydroxides with simethicone

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MORE COMING MEETINGS

■ Denotes Texas meetings.

ALSO IN MAY

■ AMERICAN ASSOCIATION OF MEDICAL ASSISTANTS, STATE OF TEXAS, Wichita Falls, May 16-20, 1973. Patty Fouts, 2211 Lucas St., Wichita Falls 76303, Corr. Sec.

■ AMERICAN COLLEGE OF SURGEONS, NORTH TEXAS CHAPTER, Dallas, May 19, 1973. Dr. Ronald F. Garvey, 6011 Harry Hines Blvd., Dallas 75235, Sec.

AMERICAN GASTROENTEROLOGICAL ASSOCIATION, New York City, May 20-26, 1973. Charles B. Slack, 6900 Grove Rd., Thorofare, NJ 08086, Exec. Sec.

■ AMERICAN PSYCHIATRIC ASSOCIATION, TEXAS DISTRICT BRANCH, Dallas, May 5, 1973. Dr. Harry K. Davis, 200 University Blvd., Galveston 77550, Sec.-Treas.

AMERICAN SOCIETY FOR AESTHETIC PLASTIC SURGERY, INC., Monterey, Calif., May 29-June 1, 1973. Dr. Eugene H. Courtiss, 2000 Washington St., Newton Lower Falls, Boston 02162, Sec.

AMERICAN THORACIC SOCIETY, New York City, May 20-23, 1973. Robert Weymueller, 1740 Broadway, New York 10019, Exec. Sec.

AMERICAN UROLOGICAL ASSOCIATION, INC., New York City, May 14-17, 1973. Richard J. Hannigan, 1120 N. Charles St., Baltimore 21201, Exec. Sec.

NATIONAL LEAGUE FOR NURSING, Minneapolis, May 6-9, 1973. Margaret E. Walsh, 10 Columbus Circle, New York 10019, Sec. & Gen. Dir.

NATIONAL SOCIETY FOR THE PREVENTION OF BLINDNESS, INC., New York City, May 16-18, 1973. Dr. Wilfred D. David, 79 Madison Ave., New York 10016, Exec. Dir.

■ SOUTH CENTRAL ASSOCIATION OF BLOOD BANKS, Corpus Christi, May 23-25, 1973. Elsie Howard, 2109 Commerce, Dallas 75201, Exec. Sec.

SOUTHWESTERN SURGICAL CONGRESS, Scottsdale, Ariz., May 7-10, 1973. Dr. Jack A. Barney, 301 Pasteur Medical Bldg., Oklahoma City 73101, Sec.-Treas.

■ TEXAS COMMISSION ON ALCOHOLISM, Dallas, May 3, 1973. K. E. Beahan, 809 Sam Houston State Office Bldg., Austin 78701, Exec. Dir.

■ TEXAS DERMATOLOGICAL SOCIETY, Dallas, May 5, 1973. Dr. Eugene P. Schoch, Jr., 3A Medical Arts Sq., Austin 78705, Sec.

■ TEXAS OPHTHALMOLOGICAL ASSOCIATION, Dallas, May 4, 1973. Dr. David S. Dow, 2223 Austin Ave., Waco 76701, Sec.

JUNE

AMERICAN DIABETES ASSOCIATION, Chicago, June 23-24, 1973. J. Richard Connelly, 18 East 48th St., New York 10017, Exec. Dir.

AMERICAN ELECTROENCEPHALOGRAPHIC SOCIETY, Boston, June 14-16, 1973. Margaret Henry, 36391 Maple Grove Rd., Willoughby Hills, Ohio 44094, Exec. Sec.

■ AMERICAN HEART ASSOCIATION, TEXAS AFFILIATE INC., Dallas, June 19-24, 1973. Dudley H. Hafner, PO Box 9928, Austin 78766, Exec. Dir.

AMERICAN MEDICAL ASSOCIATION, New York City, June 24-28, 1973. AMA, 535 N. Dearborn St., Chicago 60610.

AMERICAN NEUROLOGICAL ASSOCIATION, Montreal, June 11-13, 1973. Dr. Samuel A. Trufant, Cincinnati General Hospital, Cincinnati 45229, Sec.

■ AMERICAN PHYSICAL THERAPY ASSOCIATION, Houston, June 24-29, 1973. Royce P. Noland, 1156 15th St. NW, Washington, DC 20005, Exec. Dir.

AMERICAN PROCTOLOGIC SOCIETY, Detroit, June 10-14, 1973. Harriette Gibson, 320 W. Lafayette, Detroit 48226, Adm. Sec.

■ TEXAS PHARMACEUTICAL ASSOCIATION, San Antonio, June 20-23, 1973. Luther R. Parker, PO Box 4487, Austin 78701, Exec. Officer.

JULY

AMERICAN ACADEMY OF FAMILY PHYSICIANS, NEW MEXICO CHAPTER, 16th Annual Ruidoso Summer Clinic, Ruidoso, NM, July 16-19, 1973. Bob Reid, PO Box 456, Sunland Park, NM 88063, Exec. Sec.

FLYING PHYSICIANS ASSOCIATION, San Diego, July 22-27, 1973. Albert Carriere, 801 Green Bay Rd., Lake Bluff, Ill. 60044, Exec. Officer.

ROCKY MOUNTAIN CANCER CONFERENCE, Denver, July 13-14, 1973. F. C. Shmidt, 1764 Gilpin, Denver 80218, Exec. V.-Pres.

AUGUST

■ AMERICAN CANCER SOCIETY, TEXAS DIVISION, Dallas, Aug. 23-24, 1973. Curt W. Reimann, 5100 Ridge Oak, Austin 78731, Exec. V.-Pres.

SEPTEMBER

■ AMERICAN ACADEMY OF OPHTHALMOLOGY AND OTOLARYNGOLOGY, Dallas, Sept. 16-20, 1973. Dr. C. M. Kos, 15 Second St. SW, Rochester, Minn. 55901.

AMERICAN ASSOCIATION OF MEDICAL CLINICS, Los Angeles, Sept. 16-20, 1973. Dr. G. Stanley Custer, 630 S. Central Ave., Marshfield, Wisc. 54449, Acting Exec. Dir.

AMERICAN CANCER SOCIETY, Second National Conference on Cancer of the Colon and Rectum, Bal Harbour, Fla., Sept. 27-29, 1973. Dr. Sidney L. Arje, 219 E. 42nd St., New York 10017.

AMERICAN FRACTURE ASSOCIATION, Montreal, Sept. 5-9, 1973. Dr. H. W. Wellmerling, 600 Livingston Bldg., Bloomington, Ill. 62058, Exec. Officer.

AMERICAN MEDICAL ASSOCIATION, 33rd Annual AMA Congress on Occupational Health, Philadelphia, Sept. 17-18, 1973. AMA, 535 N. Dearborn St., Chicago, Ill. 60610.

AMERICAN ROENTGEN RAY SOCIETY, Montreal, Sept. 25-28, 1973. Dr. Ted F. Leigh, Emory University Clinic, Atlanta 30322, Exec. Sec.

INTERNATIONAL MEDICAL CONGRESS, Fourth International Conference on Birth Defects, Vienna, Austria, Sept. 2-8, 1973. Richard C. Gedney, 1275 Mamaroneck Ave., White Plains, NY 10605, Exec. Sec.

■ PANHANDLE DISTRICT MEDICAL SOCIETY, Lubbock, Sept. 15, 1973. Carlie Umphres, PO Box 3276, Amarillo 79106, Exec. Officer.

■ TEXAS PEDIATRIC SOCIETY, Austin, Sept. 1973. Dr. Pat A. Cato, 1015 E. 32nd St., Austin 78705, Sec.

OCTOBER

AMERICAN ACADEMY OF FAMILY PHYSICIANS, Denver, Oct. 1-4, 1973. Roger Tusken, Volker Blvd. at Brookside, Kansas City, Mo. 64112, Exec. Dir.

AMERICAN ACADEMY OF PHYSICAL MEDICINE AND REHABILITATION, Washington, DC, Oct. 21-26, 1973. Creston Herold, 30 N. Michigan Ave., Chicago 60602, Exec. Officer.

AMERICAN ASSOCIATION FOR LABORATORY ANIMAL SCIENCE, Bal Harbour, Fla., Oct. 1-5, 1973. Joseph J. Garvey, 2317 W. Jefferson, Suite 208, Joliet, Ill. 60435, Exec. Sec.

AMERICAN ASSOCIATION OF MEDICAL ASSISTANTS, Washington, DC, Oct. 23-27, 1973. Dene R. Murray, One E. Wacker, No. 1510, Chicago 60601, Exec. Dir.

AMERICAN BOARD OF FAMILY PRACTICE, Oct. 20-21, 1973. Dr. Nicholas J. Pisacano, University of Kentucky Medical Center, Annex No. 2, Rm. 229, Lexington 40506, Sec.

AMERICAN COLLEGE OF CHEST PHYSICIANS, Toronto, Ontario, Oct. 21-25, 1973. Dr. Alfred Soffer, 112 East Chestnut, Chicago 60611, Exec. Dir.

AMERICAN COLLEGE OF GASTROENTEROLOGY, Los Angeles, Oct. 21-27. Daniel Weiss, 299 Broadway, New York 10007, Exec. Sec.

AMERICAN COLLEGE OF SURGEONS, Chicago, Oct. 15-19, 1973. C. Rollins Hanlon, 55 E. Erie St., Chicago 60611, Dir.

AMERICAN CONGRESS OF REHABILITATION MEDICINE, Washington, DC, Oct. 21-26, 1973. Creston Herold, 30 N. Michigan Ave., Chicago 60602, Exec. Officer.

AMERICAN MEDICAL ASSOCIATION, 14th National Conference on Physicians and Schools, Chicago, Oct. 4-6, 1973. AMA, 535 N. Dearborn St., Chicago 60610.

AMERICAN SOCIETY OF ANESTHESIOLOGISTS, San Francisco, Oct. 7-11, 1973. John W. Andes, 515 Busse Highway, Park Ridge, Ill. 60068, Exec. Sec.

AMERICAN SOCIETY OF PLASTIC AND RECONSTRUCTIVE SURGEONS, Hollywood, Fla., Oct. 21-26, 1973. Dallas F. Whaley, 29 E. Madison, Suite 807, Chicago 60602, Exec. Dir.

ASSOCIATION OF LIFE INSURANCE MEDICAL DIRECTORS OF AMERICA, New York City, Oct. 14-17, 1973. Dr. Athur E. Brown, 501 Boylston St., Boston 02117, Sec.

CIVIL AVIATION MEDICAL ASSOCIATION, Mexico, Oct. 22-25, 1973. Dr. Luis A. Amezcuag, Ave. Progreso No. 186-101, Mexico 18, DF, Mex., Chrmn.

SOUTHERN PSYCHIATRIC ASSOCIATION, Miami, Oct. 6-9, 1973. Annette S. Boutwell, PO Box 10387, Raleigh, NC 27605, Exec. Sec.

■ TEXAS MEDICAL ASSOCIATION, Austin, Oct. 5-7, 1973. C. Lincoln Williston, 1801 N. Lamar Blvd., Austin 78701, Exec. Sec.

WORLD CONFERENCE ON THE HUMAN ENVIRONMENT, Yugoslavia, Oct. 23-26, 1973. Dr. Gerald D. Dorman, 10 Columbus Circle, New York 10019.

WORLD MEDICAL ASSOCIATION, Munich, Germany, Oct. 14-20, 1973. M. L. Natwick, 10 Columbus Circle, New York 10019, Exec. Sec.

NOVEMBER

AMERICAN ASSOCIATION OF BLOOD BANKS, Bal Harbour, Fla., Nov. 11-16, 1973. Lois J. James, 30 N. Michigan Ave., Chicago 60602, Cen. Office Mgr.

■ AMERICAN ASSOCIATION FOR CLINICAL IMMUNOLOGY AND ALLERGY, San Antonio, Nov. 29-Dec. 2, 1973. Dr. Robert J. Brennan, 3471 N. Federal Hwy., Ft. Lauderdale, Fla. 33306, Prog. Chrmn.

INTERNATIONAL CONGRESS OF GYNECOLOGICAL LAPAROSCOPY, New Orleans, Nov. 17-20, 1973. Dr. Jordan M. Phillips, 11239 S. Lakewood Blvd., Downey, Calif. 90241.

■ TEXAS ACADEMY OF FAMILY PHYSICIANS, San Antonio, Nov. 5-7, 1973. Donald C. Jackson, 1905 N. Lamar Blvd., Austin 78705, Exec. Officer.

■ TEXAS DERMATOLOGICAL SOCIETY, San Antonio, Nov. 12-15, 1973. Dr. Eugene P. Schoch, Jr., 3A Medical Arts Sq., Austin 78705, Sec.

DECEMBER

AMERICAN CANCER SOCIETY, INC., National Conference on Virology and Imunology in Human Cancer, New York City, Nov. 29-Dec. 1, 1973. Dr. Sidney L. Arje, American Cancer Society, Inc., 219 E. 42nd St., New York 10017.

AMERICAN MEDICAL ASSOCIATION, clinical convention, Anaheim, Calif., Dec. 1-5, 1973. AMA, 535 N. Dearborn St., Chicago 60610.

If she comes up with otitis externa...

Coly-Mycin® S/Otic

WITH NEOMYCIN AND HYDROCORTISONE
(colistin sulfate – neomycin sulfate – thonzonium bromide–hydrocortisone acetate otic suspension)

- ☐ anti-inflammatory/antipruritic
- ☐ broadly anti-infective
  - vs. many Gram-negative invaders... including *Pseudomonas aeruginosa.*
  - vs. many Gram-positive invaders... including *Staph. aureus.*
- ☐ normalizes pH

Each ml contains: Colistin base activity, 3 mg (as the sulfate); Neomycin base activity, 3.3 mg (as the sulfate); Hydrocortisone acetate, 10 mg (1%); Thonzonium bromide, 0.5 mg (0.05%). Polysorbate 80, acetic acid, and sodium acetate in a buffered aqueous vehicle. Thimerosal, 0.002%, added as a preservative. *Indications:* Coly-Mycin S Otic with Neomycin and Hydrocortisone is indicated in the treatment of acute and chronic external otitis due to or complicated by bacterial and/or fungal infections caused by susceptible organisms. It is also indicated for the prophylaxis of "swimmer's ear." *Contraindication:* A history of sensitivity to any of the components or in tubercular, fungal and most viral lesions, especially herpes simplex, vaccinia and varicella. *Precautions:* If sensitivity or irritation occurs, medication should be discontinued promptly. Overgrowth of resistant organisms is possible. Use with care in cases with perforated eardrum or in long standing otitis media because of the possibility of ototoxicity caused by neomycin. There are articles in the current medical literature that indicate an increase in the prevalence of persons sensitive to neomycin. *Adverse Reactions:* A low incidence of mild burning or painful sensation in the ear has been reported. Such local effects do not usually require discontinuance of medication. Sensitivity reactions were reported in a few instances. *Administration and Dosage:* After the ear has been completely cleansed and dried, Coly-Mycin S Otic with Neomycin and Hydrocortisone should be instilled (a sterile dropper is provided) into the canal, or applied to the surface of the affected ear. Shake the suspension well before using. The recommended therapeutic dosage is four (4) drops, 3 times a day; prophylactically, four (4) drops before and after swimming. Until acute pain has subsided, it may be preferable or necessary in some patients to pack the ear with a cotton wick saturated with Coly-Mycin S Otic with Neomycin and Hydrocortisone. The wick should be kept wet at all times. The patient should be instructed to avoid contaminating the dropper, especially with the fingers. Coly-Mycin S Otic with Neomycin and Hydrocortisone is stable for eighteen (18) months at room temperature; however, prolonged exposure to higher temperatures should be avoided. *Supplied:* Coly-Mycin S Otic with Neomycin and Hydrocortisone is available in bottles containing 5 ml or 10 ml. Each ml contains 3 mg of colistin base activity (as the sulfate), 3.3 mg of neomycin base activity (as the sulfate), 10 mg of hydrocortisone acetate, 0.5 mg of thonzonium bromide, polysorbate 80, acetic acid and sodium acetate. A small amount (0.02 mg/ml) of thimerosal has been added as a preservative. Each package contains a sterile dropper. Full information is available on request.

WARNER/CHILCOTT
Division, Warner-Lambert Co.
Morris Plains, N.J. 07950

CMO GP-31B-BW

Everybody experiences psychic tension.

Most people can handle this tension.

Some people develop excessive psychic tension and need your counseling,

and a few may need counseling
and the psychotropic action of Valium® (diazepam).

Before deciding to make Valium (diazepam) part of your treatment plan, check on whether or not the patient is presently taking drugs and, if so, what his response has been. Along with the medical and social history, this information can help you determine initial dosage, the possibility of side effects and the ultimate prospects of success or failure.

While Valium can be a most helpful adjunct to your counseling, it should be prescribed only as long as excessive psychic tension persists and should be discontinued when you decide it has accomplished its therapeutic task. In general, when dosage guidelines are followed, Valium is well tolerated (see Dosage). For convenience it is available in 2-mg, 5-mg and 10-mg tablets.

Drowsiness, fatigue and ataxia have been the most commonly reported side effects.

Until response is determined, patients receiving Valium should be cautioned against engaging in hazardous occupations requiring complete mental alertness, such as driving or operating machinery.

ROCHE

Roche Laboratories
Division of Hoffmann-La Roche Inc.
Nutley, N.J. 07110

Before prescribing, please consult complete product information, a summary of which follows:

Indications: Tension and anxiety states; somatic complaints which are concomitants of emotional factors; psychoneurotic states manifested by tension, anxiety, apprehension, fatigue, depressive symptoms or agitation; symptomatic relief of acute agitation, tremor, delirium tremens and hallucinosis due to acute alcohol withdrawal; adjunctively in skeletal muscle spasm due to reflex spasm to local pathology, spasticity caused by upper motor neuron disorders, athetosis, stiff-man syndrome, convulsive disorders (not for sole therapy).

Contraindicated: Known hypersensitivity to the drug. Children under 6 months of age. Acute narrow angle glaucoma; may be used in patients with open angle glaucoma who are receiving appropriate therapy.

Warnings: Not of value in psychotic patients. Caution against hazardous occupations requiring complete mental alertness. When used adjunctively in convulsive disorders, possibility of increase in frequency and/or severity of grand mal seizures may require increased dosage of standard anticonvulsant medication; abrupt withdrawal may be associated with temporary increase in frequency and/or severity of seizures. Advise against simultaneous ingestion of alcohol and other CNS depressants. Withdrawal symptoms (similar to those with barbiturates and alcohol) have occurred following abrupt discontinuance (convulsions, tremor, abdominal and muscle cramps, vomiting and sweating). Keep addiction-prone individuals under careful surveillance because of their predisposition to habituation and dependence. In pregnancy, lactation or women of childbearing age, weigh potential benefit against possible hazard.

Precautions: If combined with other psychotropics or anticonvulsants, consider carefully pharmacology of agents employed; drugs such as phenothiazines, narcotics, barbiturates, MAO inhibitors and other antidepressants may potentiate its action. Usual precautions indicated in patients severely depressed, or with latent depression, or with suicidal tendencies. Observe usual precautions in impaired renal or hepatic function. Limit dosage to smallest effective amount in elderly and debilitated to preclude ataxia or oversedation.

Side Effects: Drowsiness, confusion, diplopia, hypotension, changes in libido, nausea, fatigue, depression, dysarthria, jaundice, skin rash, ataxia, constipation, headache, incontinence, changes in salivation, slurred speech, tremor, vertigo, urinary retention, blurred vision. Paradoxical reactions such as acute hyperexcited states, anxiety, hallucinations, increased muscle spasticity, insomnia, rage, sleep disturbances, stimulation have been reported; should these occur, discontinue drug. Isolated reports of neutropenia, jaundice; periodic blood counts and liver function tests advisable during long-term therapy.

Dosage: Individualize for maximum beneficial effect. *Adults:* Tension, anxiety and psychoneurotic states, 2 to 10 mg b.i.d. to q.i.d.; alcoholism, 10 mg t.i.d. or q.i.d. in first 24 hours, then 5 mg t.i.d. or q.i.d. as needed; adjunctively in skeletal muscle spasm, 2 to 10 mg t.i.d. or q.i.d.; adjunctively in convulsive disorders, 2 to 10 mg b.i.d. to q.i.d. *Geriatric or debilitated patients:* 2 to 2½ mg, 1 or 2 times daily initially, increasing as needed and tolerated. (See Precautions.) *Children:* 1 to 2½ mg t.i.d. or q.i.d. initially, increasing as needed and tolerated (not for use under 6 months).

Supplied: Valium® (diazepam) Tablets, 2 mg, 5 mg and 10 mg; bottles of 100 and 500. All strengths also available in Tel-E-Dose® packages of 1000.

Valium®
(diazepam)

To help you manage excessive psychic tension

Texas Medical Association presents for its members, their families and friends

Rhine Escape

8 Days in the Heart of Europe Featuring a Luxurious 4 Day Cruise Through Switzerland, France, Germany and Holland.

$589 inclusive

Departs Houston and Dallas July 22, 1973
Returns Houston and Dallas July 30, 1973

The Great Escape! That's Marriott's four country cruise through Holland, Germany, France and Switzerland along the Rhine River.

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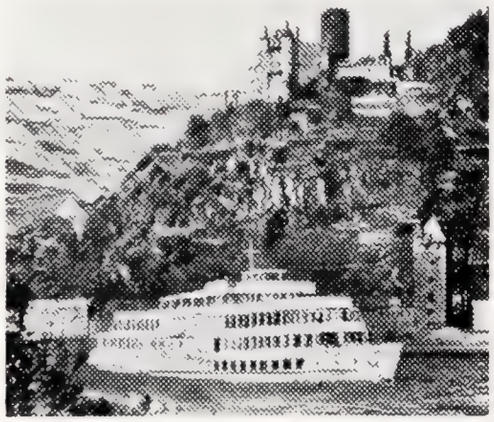

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CONTINUING EDUCATION COURSES

CARDIOVASCULAR DISEASE: Brooke General Hospital, Fort Sam Houston, will sponsor a course, "Current Trends in Cardiovascular Disease," on May 16-18. Audiovisual materials, clinical conferences, lectures, and open question and panel discussions will be included in the course. No fee is required. Contact: Dr. George M. McGranahan, Jr., COL, MC, Chief Cardiology Service, Brooke General Hospital, Brooke Army Medical Center, Fort Sam Houston 78234.

CHEST DISEASE: A course entitled "Respiratory Diseases" is being sponsored by UT Health Science Center at Houston, Division of Continuing Education April 24-May 15. Duration of the course is 2 hours per day for 4 weeks, for 8 total course hours. Teaching methods will be audio-visual materials, lectures, and open question sessions.

The course is accredited by the AAFP and fee is $35. Enrollment is unlimited. Contact: Dr. Grant Taylor, Dean, Division of Continuing Education, UT Health Science Center at Houston, PO Box 20367, Houston 77025.

HOSPITAL EMERGENCY COURSE FOR DOCTORS AND NURSES: The American College of Surgeons' Committee on Trauma and The University of Texas Southwestern Medical School at Dallas, with financial support from Johnson and Johnson Company, will sponsor a 3-day course for physicians working full time or on call in emergency rooms and emergency room nurses on May 23-25 at the Sheraton-Dallas Hotel.

The course, "Treatment of the Seriously Injured or Ill in the Emergency Department," will include sessions on trauma, psychiatric problems, acute medical problems, pediatric problems and obstetric-gynecological problems.

Course directors are Dr. G. Tom Shires, Dr. Peter C. Canizaro, and Dr. Erwin R. Thal. Dr. Shires is professor and chairman of the department of surgery, UT Southwestern Medical School, chief of services, Parkland Hospital, and Regent of the American College of Surgeons. Drs. Canizaro and Thal are assistant professors of surgery at UT Southwestern Medical School.

Registration forms are available from Trauma Division, American College of Surgeons, 55 E. Erie St., Chicago 60611. Completed registration forms should be forwarded with the $75 registration fee to Dr. G. Tom Shires, 5323 Harry Hines Blvd., Dallas 75235.

OBSTETRICS AND GYNECOLOGY: "Recent Advances in Managing Common Problems in Obstetrics and Gynecology" will be presented April 28-29 by the UT Medical School at San Antonio. The first day's session will cover hormone therapy in the menopause, therapeutic abortion, sterilization (including laparoscopic techniques), early detection of cervical carcinoma, rhesus problems and amniocentesis. During the second day the focus will be upon human sexuality—counseling techniques and diagnosis and treatment of impotence and frigidity.

The program is accredited for 8 hours by the AAFP and Category 1, AMA Physician's Recognition Award. Fee is $100. Contact: Dr. Paul Cutler, Associate Dean for Clinical Affairs, UT Medical School at San Antonio, 7703 Floyd Curl Dr., San Antonio 78284.

MEDICAL THERAPEUTICS: A two day postgraduate course on medical therapeutics will be held at the University of Oklahoma College of Medicine May 18-19. Several national authorities will participate in this general review of the use and abuse of several major drug categories as well as important recent advances in medical therapy. More detailed information is available through the Office of Continuing Medical Education for Physicians, University of Oklahoma College of Medicine, 800 NE 13th St., Oklahoma City 73104.

PHYSICAL MEDICINE AND REHABILITATION: "Facial Palsy: Diagnosis and Management," sponsored by the UT Medical School at San Antonio May 19, will provide an in-depth survey of the problem of patients with facial palsy. Seminars, conferences, and demonstrations will focus upon the pertinent anatomy and physiology, etiology, and diagnostic methods. Patient presentations will be made to explore diagnostic tools (e.g. nerve conduction tests, electromyography, auditory testing devices) as well as to review prognosis and clinical course.

Accreditation for the course is 7 hours, AAFP and Category 1, AMA Physician's Recognition Award. A fee of $50 is required. Contact: Dr. Paul Cutler, Associate Dean for Clinical Affairs, UT Medical School at San Antonio, 7703 Floyd Curl Dr., San Antonio 78284.

MALIGNANT DISEASE: UT Medical School at San Antonio will sponsor a course entitled "Chemotherapy and Immunotherapy of Solid Tumors" May 18-19. The latest methods of managing patients with solid tumors will be covered in a series of seminars, case presentations and panel discussions.

The course is accredited for 10½ hours by the AAFP and Category 1, AMA Physician's Recognition Award. No fee is required and enrollment is unlimited. For further information, contact Dr. Paul Cutler, Associate Dean for Clinical Affairs, UT Medical School at San Antonio, 7703 Floyd Curl Dr., San Antonio 78284.

RHEUMATISM: The American College of Physicians presents "The Rheumatic Diseases: Clinical and Immunological Aspects" May 16-18 at the Marriott Motor Hotel, Sundowner Room No. 3,

MORE CONTINUING EDUCATION COURSES

2101 Stemmons Freeway, Dallas. The course will review the clinical, metabolic, serologic, and immunologic aspects of the arthritides and connective tissue diseases. Serologic and immunologic data will be related to diagnosis and to mechanisms of inflammation and tissue injury. Therapy will be discussed in the light of known immunopathologic mechanisms. Advances in orthopedic surgery and rehabilitation will also be presented. Fees for ACP members and FACP, $80; nonmembers, $125; ACP associates, $40; and residents and resident fellows, $80. Contact: Dr. Morris Ziff, Professor of Internal Medicine, UT Health Science Center at Dallas, 5323 Harry Hines Blvd., Dallas 75235.

PSYCHIATRY: "Principles of Supportive Psychotherapy" is the theme of the course sponsored by UT Health Science Center at Dallas at the Presbyterian Hospital of Dallas May 8-29. Duration of the course is intermittent: 4 days; 4 weeks; 2 hours instruction per day. Teaching methods will include clinical conferences, lectures, open question sessions and seminar.

The course is accredited for 8 hours by the AAFP and enrollment fee is $45. Contact: Dr. John S. Chapman, Assistant Dean for Postgraduate Education, UT Health Science Center at Dallas, 5323 Harry Hines Blvd., Dallas 75235.

PHYSICAL MEDICINE: The Veterans Administration Hospital, Houston, with the cooperation of the Baylor College of Medicine, will conduct an intensive review course in Physical Medicine for those physicians who are planning to take their Board Examinations.

The course will be conducted May 22-June 1. There is no tuition or registration fee and the course is offered to both VA and non-VA physicians. Additional information may be obtained by writing to Chief, Rehabilitation Medicine, VA Hospital, Houston 77031.

INTERNAL MEDICINE: Veterans Administration Hospital, Big Spring, and UT Health Science Center at Dallas will co-sponsor a course entitled "Survey of Drug Therapy" May 22-24 in Big Spring. Teaching methods to be used are bedside rounds, clinical conferences, lectures and open question sessions.

Duration of the course will be 3 days; 5 hours instruction per day; 15 total course hours. No fee is required. For further information contact Dr. H. C. Ernsting, Chief of Staff, Veterans Administration Hospital, 2400 S. Gregg St., Big Spring 79720.

ALSO IN MAY

Master Interpretation of Clinical Electrophysiology. Sponsored by The University of Miami School of Medicine and the Council on Clinical Cardiology of the American Heart Association, Lake Buena Vista, Fla., May 29-31. Contact: Dr. Louis Lemberg, University of Miami School of Medicine, PO Box 875, Biscayne Annex, Miami 33152.

Statistics for Comprehensive Health Planning. Sponsored by the University of Oklahoma Medical Center, May 20-25, Oklahoma City. Tuition provided by PHS Grant for all accepted applicants. Contact: Dr. Charles M. Cameron, Jr., Department of Health Administration—School of Health, University of Oklahoma Medical Center, 619 NE 15th St., Oklahoma City 73104.

Cirrhosis and Portal Hypertension. Sponsored by the American Gastroenterological Association, New York City, May 20-26. Contact: Mrs. Micki Thomas, Charles B. Slack, Inc., 6900 Grove Road, Thorofare, NJ 08086.

JUNE

Clinical Electroencephalography. Sponsored by the American Electroencephalographic Society, Boston, June 14. Contact: Dr. Donald W. Klass, EEG Course Director, Mayo Clinic, 200 First St. SW, Rochester, Minn. 55901.

JULY

External Beam, Interstitial, and Intracavitary Dosimetry Principles. Sponsored by UT at Houston, Graduate School of Biomedical Sciences, Division of Continuing Education and M. D. Anderson Hospital and Tumor Institute, Houston, July 2-13. Deadline for application is May 1. Contact: The University of Texas, Graduate School of Biomedical Sciences at Houston, Division of Continuing Education, PO Box 20367, Houston 77025.

External Beam, Interstitial, and Intracavitary Dosimetry Applications. Sponsored by UT at Houston, Graduate School of Biomedical Sciences, Division of Continuing Education and M. D. Anderson Hospital and Tumor Institute, Houston, July 16-27. Deadline for application is May 1. Contact: The University of Texas, Graduate School of Biomedical Sciences at Houston, Division of Continuing Education, PO Box 20367, Houston 77025.

External Beam, Interstitial, and Intracavitary Dosimetry, Computer Methods. Sponsored by UT at Houston, Graduate School of Biomedical Sciences, Division of Continuing Education and M. D. Anderson Hospital and Tumor Institute, Houston, July 30-August 3. Deadline for application is May 1. Contact: The University of Texas, Graduate School of Biomedical Sciences at Houston, Division of Continuing Education, PO Box 20367, Houston 77025.

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Brief Summary

Indications—Placidyl (ethchlorvynol) is indicated as short-term hypnotic therapy in the management of insomnia.

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Warnings—Not recommended during the first and second trimester of pregnancy. Caution patients of possible combined exaggerated effects with alcohol, barbiturates, tranquilizers or other CNS depressants. Exaggerated effects might result in blurring of vision, paralysis of accommodation and profound hypnosis. Caution patients concerning driving a motor vehicle, operating machinery, or other hazardous operations requiring alertness after taking the drug. ADMINISTER WITH CAUTION TO PATIENTS WITH SUICIDAL TENDENCIES AND DO NOT PRESCRIBE LARGE QUANTITIES OF THE DRUG. Adjustment of the dosage of oral anticoagulants might be necessary when beginning ethchlorvynol therapy, during therapy, or after stopping therapy. This drug is not recommended for use in children. PLACIDYL HAS THE POTENTIAL FOR THE DEVELOPMENT OF PSYCHOLOGICAL AND PHYSICAL DEPENDENCE. INSTANCES OF SEVERE WITHDRAWAL SYMPTOMS, INCLUDING CONVULSIONS AND DELIRIUM CLINICALLY SIMILAR TO THOSE SEEN WITH BARBITURATES, HAVE BEEN REPORTED IN PATIENTS TAKING REGULAR DOSES AS LOW AS 1000 MG. PER DAY OVER A PERIOD OF TIME WHEN THE DRUG WAS SUDDENLY DISCONTINUED. PROLONGED ADMINISTRATION OF THE DRUG IS NOT RECOMMENDED. Addiction-prone patients or those who are likely to increase dosages of the drug on their own initiative should be observed for evidence of signs or symptoms which may indicate possible early withdrawal or abstinence symptoms. Signs and symptoms associated with withdrawal and abstinence include unusual anxiety, tremor, ataxia, slurring of speech, memory loss, perceptual distortions, irritability, agitation and delirium. Other less well defined signs and symptoms, not necessarily due to withdrawal and abstinence, may include anorexia, nausea or vomiting, weakness, dizziness, sweating, muscle twitching and weight loss. Abrupt discontinuance of Placidyl following prolonged overdosage may result in convulsions and delirium.

Precautions—Toxic amblyopia has been reported with long-term continuous use of ethchlorvynol. Permanent visual defects have been observed, although amblyopia has improved after discontinuation of the drug. Drug dosage should be limited for elderly and debilitated patients to the smallest effective amount. If pain is present, this drug should only be given if insomnia persists after pain is controlled with analgesics. Caution is advised in prescribing the drug for patients who are being treated with either MAO inhibitors or antidepressants. Transient delirium has been reported with the combination of Placidyl and amitryptyline. Drug dosage should be reduced if prescribed for patients receiving MAO inhibitors or antidepressants. Caution should be exercised in patients with impaired hepatic or renal function. Patients who respond unpredictably to barbiturates or alcohol, or who exhibit excitement and release of inhibition in association with such agents, may also react in this way to Placidyl. Rarely, patients may exhibit symptoms suggestive of an unusual susceptibility to the drug; such as prolonged hypnosis, profound muscular weakness, excitement, hysteria, or syncope without marked hypotension. Transient giddiness or ataxia may occur.

Adverse Reactions—Hypotension, nausea or vomiting, gastric upset, aftertaste, blurring of vision, dizziness, facial numbness, and allergic reaction typified by urticaria have been reported following Placidyl administration. Mild "hangover" and symptoms of mild excitation have occurred in some patients. There have been rare reports of cholestatic jaundice occurring in patients taking ethchlorvynol. A few cases of thrombocytopenia have been reported in patients receiving ethchlorvynol. 304431

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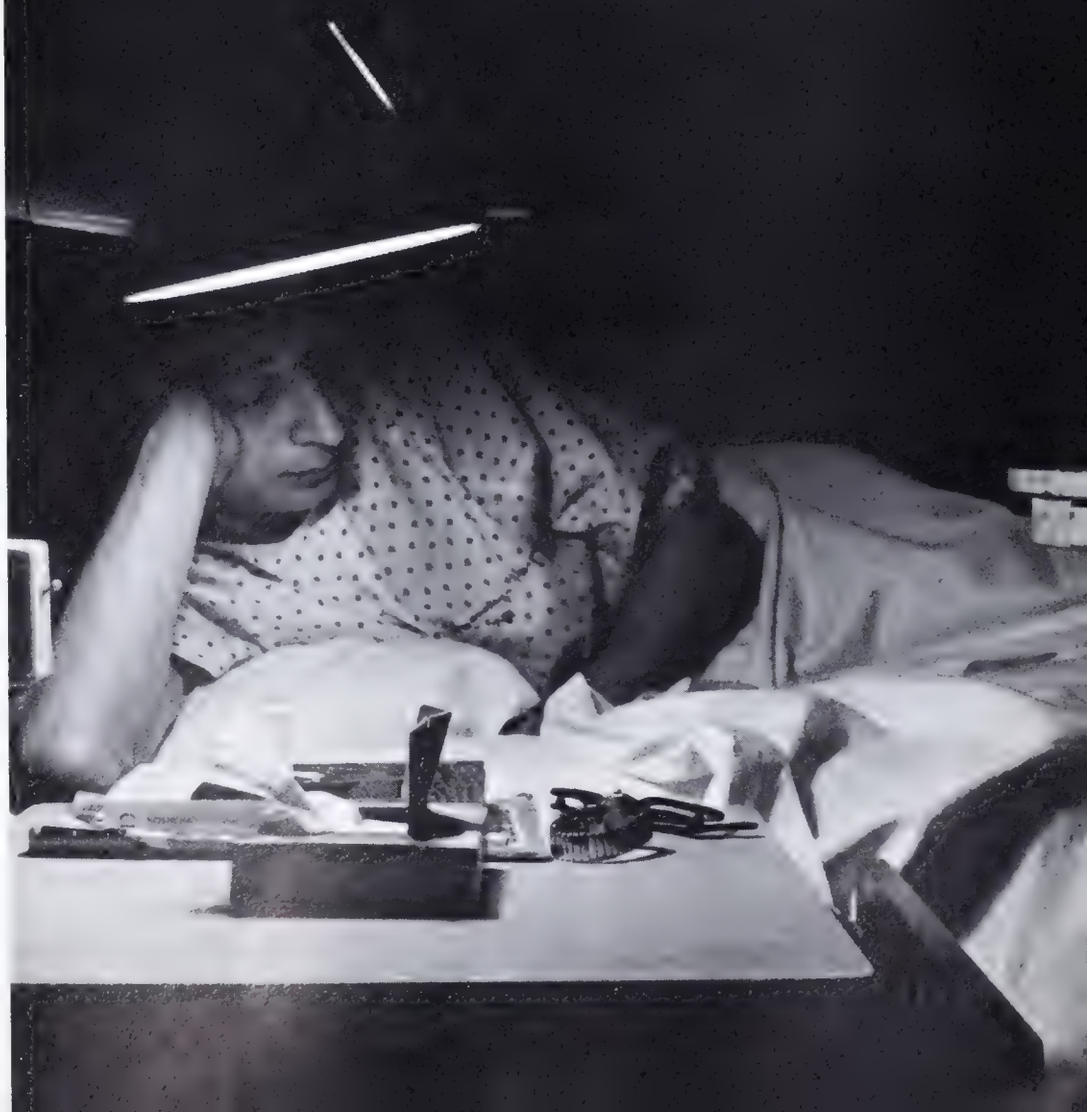

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Action: CANDEPTIN Vaginal Ointment, Vaginal Tablets, and VAGELETTES Vaginal Capsules possess anti-monilial activity.
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Caution: During treatment it is recommended that the patient refrain from sexual intercourse or the husband wear a condom to avoid re-infection.
Adverse Reaction: Clinical reports of sensitization or temporary irritation with CANDEPTIN Vaginal Ointment, Vaginal Tablets or VAGELETTES Vaginal Capsules have been extremely rare.
Dosage: One vaginal applicatorful of CANDEPTIN Ointment or one Vaginal Tablet or one VAGELETTES Vaginal Capsule is inserted high in the vagina twice a day, in the morning and at bedtime, for 14 days. Treatment may be repeated if symptoms persist or reappear.
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Store under refrigeration to insure full potency.

Federal law prohibits dispensing without prescription.

References: 1. Olsen, J.R.: Journal-Lancet *85*:287 (July) 1965. **2.** Giorlando, S.W.: Ob/Gyn Dig. *13*:32 (Sept.) 1971. **3.** Decker, A.: Case Reports on File, Medical Department, Julius Schmid. **4.** Giorlando, S.W., Torres, J.F., and Muscillo, G.: Am. J. Obst. & Gynec. *90*: 370 (Oct. 1) 1964. **5.** Lechevalier, H.: Antibiotics Annual 1959-1960. New York, Antibiotica Inc., 1960. pp. 614-618. **6.** Friedel, H.J.: Maryland M.J., *15*:36 (Feb.) 1966.

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Abortion

The first five years at North Carolina Memorial Hospital

William E. Easterling, Jr., MD Charles H. Hendricks, MD

The experience with abortion at North Carolina Memorial Hospital during the first five years following enaction of a more liberal state law is presented. Morbidity rates and demographic data for 1971 are analyzed in detail and related to the earlier experience in this hospital and to other reports.

On May 9, 1967, the legislature of the State of North Carolina recognized a special need of its people by enacting an amendment to the 86-year-old statute §. 14-45., "When abortion not unlawful."[1] In 1971, judicial and logistical objections to the 1967 amendment were resolved by action of the lawmakers, thus further enabling the physicians of North Carolina to satisfy the needs of their patients.

It is improbable that either time or deliberation will answer all of the questions raised by the abortion issue. However, the answer to many lies in part in the response of a people and profession granted a legal avenue for the termination of the unwanted, unplanned, and health-threatening pregnancy. Social and medical legislative reforms of this nature gain overt and generalized acceptance slowly. And, as is often the case, the University serves as a vehicle to project the reform and its message into the lives of the citizenry. It should surprise no one that there was a lag in significant response, and North Carolina was no exception.

This is a report of the first five years' experience at North Carolina Memorial Hospital (NCMH), with detailed emphasis on 1971. As the number of abortions increases in this country, the morbidity and complication rates assume greater importance. These factors for 1971 are presented and are related to earlier rates.

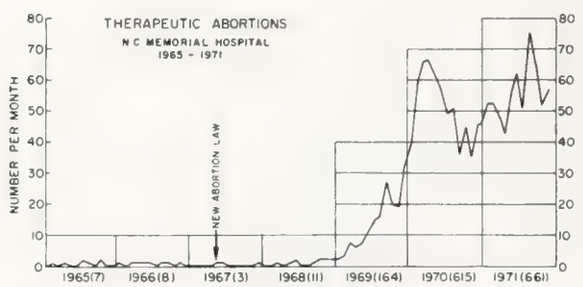
Materials and Methods

All data were obtained from the hospital record or the record plus direct contact with referring physicians. From January 1967 to January 1972, 1,463 abortions were performed. Of these, 1,277 were done in 1970 and 1971. In order to sample the nonuniversity response to the new law across North Carolina, 11 representative hospitals were surveyed. The latter revealed a total of 1,492 abortions during the four years from 1967 to 1970. Lastly, abortions performed in 1971 were analyzed in more detail for morbidity-complication rates and demographic data. With a few exceptions, the 1971 data are representative of the three years, 1969-1971, during which 99% of the cases were seen. Of the 661 patients who underwent abortions in 1971, 109 were admitted to the prostaglandin project. The complex nature of the project precludes the analysis of the morbidity in these patients in this report; these data will be reported subsequently.

Early in 1969, dilation and suction evacuation (D & E) began to replace the standard curettage; in 1971 only the suction apparatus was employed in cases of gestation up to 12 weeks. Prior to May 1971, all patients for D & E were admitted to the hospital prior to surgery. As of that date, the D & E became an outpatient procedure for all but the occasional patient for whom complications were likely. The normal patients received complete workups on Fridays and returned early Mondays for abortion. With rare exceptions, D & Es were done under paracervical block after premedication with diazepam and accompanying analgesia with fentanyl. After 14 weeks, intra-amniotic infusion of 200 ml of 20% saline by gravity was employed. Infusions were done in the outpatient area on Fridays and the patients were admitted over the

	No.	% Total
Dilation & Suction Curettage	270	41
Intraamniotic Saline	239	36
Hysterotomy	27	4
Hysterectomy	16	2
Prostaglandin	109	17

1. Number of abortions by method and percent of total.



2. Number of pregnancy terminations at NCMH from 1965 to 1971.

1966 - 1970

	1966	1967	1968	1969	1970
No. Abortions	13	43	62	114	1274
% Increase Over Previous Year		230	44	84	1018

3. Increase in abortions across North Carolina from 1966 to 1970.

low-census weekend until abortion was completed. The average time between infusion and abortion was 36 hours. Twenty-two of these women were admitted to our Clinical Research Unit for a special clotting factor study following infusion; however, techniques were unaltered. Fig 1 shows the number and percentage of patients aborted by the various methods. Overall follow-up was 93.2%, 93.4% for staff and 92.7% for private patients.

Results

Fig 2 indicates the changing incidence of abortions at NCMH. The temporary decline during late 1970 and early 1971 was partly the result of an overtaxed inpatient service prior to the institution of the outpatient D & E procedure, and probably due to a decrease in referrals. Fig 3 illustrates the sample response of the statewide medical community. The significant but relatively small increase in number of abortions in 1969 followed a leading trend in the university hospital. The effect of this effort is obvious, as there was a greater than 1,000% increase in the number of abortions done in these hospitals during 1970. This increase also was probably partly responsible for the decrease in the NCMH figures beginning in late 1970.

Fig 4 is a composite of the NCMH data. The steady decline in percentage of private cases in a state university hospital was expected as all levels of the community became aware of the legal abortion recourse. This factor, and in addition, the increasing social acceptance of abortion, led to a progressive increase from 0% terminations for nonwhite patients in 1968 to 35% in 1971. NCMH deliveries have consistently been 2:1, staff:private, during the past ten years, the ratio reached for

4. Composite of NCMH data during the six-year period 1965-1971.

YEAR	TOTAL ABORTIONS PERFORMED	PERCENT PRIVATE	PERCENT WHITE	PERCENT PSYCHIATRIC INDICATIONS	D&E	SALINE	HYSTER-OTOMY	HYSTER-ECTOMY	PROSTA-GLANDIN	PERCENT STERILIZED
1965	6	43%	57%	--	29%	43%	14%	14%		29%
1966	8	63%	75%	25%	38%	50%	-	13%		13%
1967	3	33%	67%	---	33%	---	-	67%		67%
1968	11	73%	100%	55%	46%	36%	18%	---		18%
1969	164	77%	93%	98%	72%	22%	5%	1%		7%
1970	616	55%	77%	97%	54%	36%	7%	1%	3%	7%
1971	661	35%	65%	96%	41%	36%	4%	2%	17%	8%

the abortion patients in 1971. As is evident from Fig 4, and more graphically illustrated in Figs 5 and 6 for the year 1971, a disturbing fact is the number of staff patients who came to abortion in the second trimester. During 1971, 46% of all patients were aborted after the 14th week of gestation.

The age, marital status, and parity have remained fairly constant. The distribution for 1971 is presented in Fig 7. The majority of the patients were under 23 years of age, single, and pregnant for the first time. Only 8% of all the patients requested sterilization at the time of abortion. However, when viewed relative to parity (Fig 8) the rising incidence is more striking, reaching the 50% level in para five and over.

The indications for termination of pregnancy are presented in Fig 9. The nonpsychiatric cases were those which clearly represented a significant risk to the physical health of the woman.

Figs 10-12 show the complication rates for the various methods of interruption of pregnancy. The choice of manifestations of morbidity are arbitrary, but certainly inclusive of all problems of significant risk to health. The "fever only" category includes all patients with one or more readings of 100.4 F, but who subsequently became afebrile without treatment.

Fig 10 shows the incidence of the listed difficulties encountered in 270 patients aborted by D & E. Total morbidity was 2.9%. Eliminating the "fever only" group, the figure is 2.2% and in this 1971 series, consists only of infections. There were no major complications.

There were 239 intra-amniotic hypertonic saline infusions performed during 1971. The overall morbidity was a rather astonishing 31%, corrected only to 28% with omission of the "fever only" category. However, eliminating the 35 patients who had curettage only, the majority of which were "expectant" and without hemorrhage of a degree to require transfusion, the rate is decreased to 13.4%. Only one of the total 661 patients aborted during 1971 required transfusion; this incident involved severe but limited hemorrhage secondary to retained placental tissue. The two major complications in this study followed saline infusions. In one patient, sepsis developed with evidence suggestive of a pulmonary embolus. Appropriate therapy resulted in recovery without known sequelae. The second patient, a primigravida, received an intravenous oxytocin drip when abortion had not occurred 36 hours after intra-amniotic saline infusion, resulting in tumultuous contractions and abortion via the posterior uterine wall and vaginal fornix. The patient has a uterovaginal fistula which is scheduled for repair. Only two instances of failed abortion were encountered in this group.

Twenty-seven patients had hysterotomy with simultaneous tubal ligation. The only impressive statistic is the 12% incidence of urinary tract infection, another observation which makes one ever more mindful of the consequences of catheterization. Although the figures are small, it is interesting that only in 6.7% of the patients aborted by hysterectomy, all of whom were catheterized, did urinary tract infections develop.

Discussion

Following passage of the 1967 amendment to the North Carolina State Abortion Law, there was an 18- to 24-month period during which there was little change in the abortion practice across the state. This was a period when many physicians were assuring themselves that their abortion practices prior to 1967 had simply become legal.

	STAFF			PRIVATE		
	No.	% Total	% of Staff	No.	% Total	% of Private
D & E	151	22.8	35.4	119	18.0	50.9
Saline	177	26.8	41.5	62	9.4	26.4
Hysterotomy (Sterilization)	25	3.8	5.9	2	0.03	0.9
Hysterectomy	15	2.3	3.5	1	0.015	0.04
Prostaglandin	59	9.1	13.8	50	7.4	21.4

5. Method of interruption by percent of service and total cases.

	No.	% Total
8 and under	70	10.6
9 - 10	109	16.5
11 - 12	138	20.9
13 - 14	40	6.1
15 - 16	87	13.2
17 - 18	120	18.2
19 - 20	74	11.2
21 - 22	17	2.6
23 and over	6	0.9

6. Number of cases seen at various weeks gestation.

AGE GROUPS (YEARS)			PARITY		
	No.	% Total		No.	% Total
under 16	27	4.1	0	392	59
16 - 19	196	29.7	1	102	15
20 - 23	227	34.3	2	70	11
24 - 27	97	14.7	3	40	6
28 - 31	39	5.9	4	19	3
32 - 35	45	6.8	5	10	2
36 - 39	19	2.9	6 and over	28	4
40 - 43	11	1.7			

MARITAL STATUS

	No.	% Total
Single:	382	58
Married:	223	34
Div., Sep., Wid.:	56	9

7. Age, parity, and marital status of patients seen during 1971.

That is, the generally accepted abortion for proven rubella in the first trimester, or to save or prevent a grave threat to the life of the mother, was now permissible under the new law. A sample of this response, or lack of response, was reported by Ashe in 1969.[2] During the latter part of 1968 and after legal and professional consultation, the obstetrical staff at NCMH moved to implement the true intent of the law. Parenthetically, this law was drafted and passed by the General Assembly with little more than consultation from the medical profession.

Subsequent to an initial moderate increase in abortions at NCMH and the appearance of a series of articles dealing with the abortion issue in a local newspaper, the number climbed to a level of 50 to 70 per month, as shown in Fig 2. As previously mentioned, the drop which occurred between mid 1970 and early 1971 was probably the result of an increase in cases handled in other hospitals as well as a temporary restriction of referrals to NCMH because of an overtaxed inpatient service. The rise during late 1971 resulted from a "no referral restrictions" policy instituted after the outpatient D & E service was begun, and probably from other as yet undefined factors.

During 1969 and 1970, as the number of abortions increased at NCMH, there was considerable resistance from the professional and administrative staff of the hospital. Much has been written concerning the experience of various hospitals and their staffs as they accepted this change in role, and NCMH was no exception. Although this resistance and its many manifestations were important at that time, the record at NCMH indicates that this problem is short-lived and ultimately of no major consequence. Indeed, within the past month the paramedical personnel in the NCMH clinics have announced dissatisfaction with the current counseling program for the abortion patients and are seeking more involvement in the care of these women.

The late abortion with its attendant morbidity remains a problem. It is too early to differentiate quantitatively between the two probable causes: ignorance of the available legal assistance and denial of early preg-

nancy by the frightened, unmarried young woman. The data at NCMH suggest that the problem will persist and that the latter factor, denial of pregnancy, will be a significant one for some time to come. Recidivism has not been a major problem, perhaps because the majority of the patients are out-of-town referrals who may seek subsequent abortions elsewhere.

The majority of the abortion-sterilizations performed in 1971 (83%), were by hysterotomy-tubal ligation or hysterectomy. In late 1971, a D & E-laparoscopy sterilization procedure was offered patients up to 13 weeks gestation. Although the operation requires general anesthesia and intubation, the usual hospitalization time is less than 24 hours.

Ninety-six percent of the abortions in 1971 were done on psychiatric grounds. More than one-half of the medically indicated procedures were for cardiovascular reasons, and most of these were in patients with rheumatic heart disease. The remainder are listed in Fig 9. Only one case of rubella was encountered during the year.

Since 1967, there have been only 15 major complications, including 9 cases of hemorrhage sufficient to require transfusion. The most serious hemorrhage occurred during a dilation and curettage (D & C) early in the study and led to hysterectomy. In the 1971 series, in one case a patient who underwent saline infusion experienced blood loss sufficient to necessitate transfusion and also probably had a pulmonary embolus. However, she recovered without known sequelae. The remaining seven patients received uneventful transfusion secondary to blood loss of the abortion procedure. Four of those patients hemorrhaged secondary to D & Cs and three after saline infusion, all during the 1968-1970 period. Of the five remaining major complications, four were uterine perforations which occurred during the 1967-1970 period. None required further surgery. The 14th patient, a possible saline failure, received an oxytocin infusion and subsequently the uterus ruptured. The last patient had an avulsed cervix following a hypertonic saline-oxytocin infusion sequence in 1970. She is doing well, now, although no subse-

Parity	No. /Total	% Total
0	0/392	0
1	3/102	3
2	7/70	10
3	13/40	33
4	8/19	42
5	5/10	50
6 and over	16/28	57

8. Percent of sterilizations, including tubal ligations and hysterectomies, related to parity.

	No.	% Total
Psychiatric:	636	96
Non-Psychiatric:	25	4
by systems:		
Cardiovascular	15	
Hematological	2	
Gastrointestinal	2	
Endocrine	1	
Genital (ovarian tumor)	1	
Other:		
Irradiation	2	
Attempted Crim. Abor.	1	
Rubella	1	

9. Indications for pregnancy termination by organ systems.

	Staff (151)		Private (119)		Total (270)	
	No.	% of Staff	No.	% of Private	No.	% of Total
Fever (100.4) only	1	0.7	1	0.8	2	0.7
Endometritis	1	0.7	2	1.7	3	1.1
Endometritis & Urinary Tract Infection	1	0.7	0	0.0	1	0.3
Endometritis & Retained Products of Conception	1	0.7	1	0.8	2	0.7
Morbidity (Totals)	4	2.8	4	3.3	8	2.9
Less fever only	3	2.1	3	2.5	6	2.2

10. Complications of pregnancy termination by dilation and suction evacuation during 1971.

	Staff (177)		Private (62)		Total (239)	
	No.	% of Staff	No.	% of Private	No.	% of Total
Fever only (100.4)	6	3.4	1	1.6	7	2.9
Endometritis:	7	3.9	4	6.5	11	4.6
? Pulmonary Embolus	1	0.6	0	0.0	1	0.4
Retained Products of Conception:						
Curettage only	28	15.8	7	11.3	35	14.6
Transfusion	1	0.6	0	0.0	1	0.4
Endometritis	10	5.6	1	1.6	11	4.6
Urinary Tract Infection	4	2.3	1	1.6	5	2.1
Failed Abortion (Resalt)	2	1.1	0	0.0	2	0.8
Ruptured lower uterine segment	0	0.0	1	1.6	1	0.8
Morbidity (totals)	59	33.3	15	24.2	74	31.0
Less fever only	53	29.9	14	22.6	67	28.0
Less curettage	25	14.1	7	11.3	32	13.4

11. Complications of pregnancy termination by intra-amniotic hypertonic saline infusion during 1971.

	Staff (25)		Private (2)		Total (27)	
	No.	% of Staff	No.	% of Private	No.	% of Total
Fever only (100.4)	13	52.0	1	50.0	14	51.9
Endometritis	2	8.0	0	0.0	2	7.4
Urinary Tract Infection	3	12.0	0	0.0	3	11.1
Morbidity (totals)	18	72.0	1	50.0	19	70.4
Less fever only	5	20.0	0	0.0	5	18.5

Hysterectomy

	Staff (15)		Private (1)		Total (16)	
	No.	% of Staff	No.	% of Private	No.	% of Total
Fever only (100.4)	6	40.0	1	100.0	7	43.8
Cuff Infection	1	6.7	0	0.0	1	6.3
Urinary Tract Infection	1	6.7	0	0.0	1	6.3
Morbidity (totals)	8	53.3	1	100.0	9	56.3
Less fever only	2	13.3	0	0.0	2	12.5

12. Complications of pregnancy termination by hysterotomy-tubal ligation and hysterectomy during 1971.

quent pregnancy has occurred. There have been no deaths during the five years.

In 1971, 270 suction curettages were performed. There were six cases of endometritis, one of which also involved a urinary tract infection, for a complication rate of 2.2%. Although this infection rate is high compared to that of the Joint Program for the Study of Abortions (JPSA) series,[3] the overall NCMH complication rate (including major complications) is considerably lower. In this NCMH study, there was only one uterine perforation after introduction of the Pratt dilators. This instrument unquestionably allows more rapid and less traumatic dilation of the cervix.

Late abortion by intra-amniotic infusion of hypertonic saline is generally considered to be an undesirable procedure for several reasons, the most important of which is the higher morbidity. Even the most corrected NCMH figure (13.4%) supports this observation; the uncorrected NCMH rate (31%) is comparable to the overall 28% noted by JPSA. Although Rovinsky's report of the New York experience indicates instrumental removal of retained placenta in 11.2% of cases,[4] and the 1971 NCMH statistic is 14.6%, both figures are probably too high and the result of overly aggressive management of these patients. A review of the first 234 saline infusions at NCMH (1969-1970) revealed a 7.7% incidence of manual or operative removal of retained placenta. Incidentally, the overall incidence of endometritis in the latter patients was 1.7% compared to 9.6% in the 1971 series.

As implied, hysterotomy-tubal ligation is being replaced by the D & E-laparoscopy sterilization procedure. Morbidity statistics for the latter operation are as yet forthcoming, but are expected to be much better than the 18.5% noted in Fig 12 for the former procedure.

The patient encountered in the first trimester or possibly in the second trimester who presents satisfactory indications for hysterectomy would probably best be aborted by this procedure. The postoperative morbidity statistics for the small NCMH hysterectomy-abortion series is not out of line for larger, simple hysterectomy series.

Conclusion

The past five years in North Carolina have been marked by a striking change in attitudes and practices as more individuals assume their responsibility in dealing with the sociomedical problem of abortion. A reliable estimate of the number of abortions in this state in 1971 places the figure at over 4,000. During the past five years some questions have been answered and others raised. The major medical problems remain those of providing a system and personnel to handle an increasing number of terminations, and getting patients into the system prior to 12 weeks' gestation.

The authors acknowledge the assistance of Miss Harriett Page of the Department of Obstetrics and Gynecology.

References

1. N. C. Gen. Stat. § 14-45.
2. Ashe JR: Changing aspects of abortion law (discussion). Amer J Obstet Gynec 105:42-44, 1969.
3. Tietze C, Lewit S: Legal abortions: early medical complications. Family Planning Perspectives 3:6-14, 1971.
4. Rovinsky JJ: Abortion in New York City. Obstet Gynec 38:333-342, 1971.

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Mechanism of diabetes in pregnancy and hormonal levels for prediction of fetal outcome

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Pregnancy constitutes a diabetogenic challenge. Human placental lactogen (HPL) or human chorionic somatomammotropin (HCS) administration can produce metabolic changes in man, similar to those found in pregnant subjects. Human growth hormone level is suppressed during pregnancy. The insulin resistance seen in pregnancy may be attributed to the high placental lactogen levels. Measurement of urinary estriol and sequential measurement of serum HPL gives the best index of the fetal status in utero and fetal outcome. Whole-organ section of the placenta is an ideal approach to the study of the pathological changes seen in diabetic pregnancy.

It has been well established that pregnancy constitutes a diabetogenic challenge. Thus, a pregnant diabetic patient usually requires an increased amount of insulin during the second and third trimesters. A patient with a family history of diabetes mellitus may exhibit a diabetic-type of glucose tolerance curve during pregnancy which reverts to normal after delivery.[1] In addition, nondiabetic pregnant women have an increased insulinogenic response to glucose load during the second and third trimesters, which reverts to normal postpartum.[2-5]

Growth Hormone Level During Pregnancy

The increased insulinogenic response to glucose load and insulin resistance seen in pregnancy is similar to that found in acromegaly with increased circulating human growth hormone level (HGH).[6] It was thus thought that the metabolic changes during pregnancy were caused by increased circulating HGH.[7] However, with the development of a specific radioimmunoassay for HGH, it was found that HGH was not elevated during pregnancy; on the contrary, it was highly suppressed. The suppression of HGH secretion is almost complete at the third trimester and may continue for a few days after delivery.[8]

Human Placental Lactogen (HPL)

In 1962, a hormone secreted by the placenta was identified and called human placental lactogen (HPL), sometimes referred to as human chorionic somatomammotropin (HCS). This hormone was found to have cross reactivity with antiserum to human growth hormone.[9] The cross reactivity between HGH and human placental lactogen was responsible for the early reports of high HGH during pregnancy.[10]

Metabolic Effects of HPL in Man

Human placental lactogen was extracted and partially purified. Bioassay in animals revealed that HPL has prolactin-like as well as growth-promoting activities.[11-12]

We tested the metabolic effects of placental lactogen in man.[13,14] A partially purified HPL preparation (Lederle) was administered to patients under metabolic balance conditions. Four of the patients were hypophysectomized diabetics. In two of the diabetic patients, HPL induced a diabetogenic response as shown by increased glycosuria and hyperglycemia. In the third patient, whose diabetes was moderate, there was a significant increase in blood glucose with little rise in immunoreactive insulin level during HPL administration, indicating diminished islet cell reserve. The fourth patient, who had a mild diabetic blood sugar curve, showed a rise in the blood insulin level following HPL administration with little change in blood glucose, indicating adequate islet cell reserve. In the normal subject, HPL administration produced no significant change in blood glucose, but did produce an increase in the serum insulin level. Other investigators also found that continuous intravenous

infusion of HPL in normal subjects produced hyperglycemia and hyperinsulinemia.[15] It has been shown that HPL produces lipolysis and elevation of the free fatty acids.[11] These metabolic changes after HPL administration are similar to those during pregnancy. When the metabolic effect of HPL was compared to that produced by HGH, it was found that both hormones could produce a rise in the blood glucose and serum insulin, but HGH is a much more potent diabetogenic agent than HPL when compared by weight.

Although HPL has been found to be a diabetogenic agent, this does not exclude the possibility that other hormones, which are increased during pregnancy, may play a role in the insulin antagonism observed during pregnancy. Plasma nonprotein-bound cortisol levels have been reported to be elevated during pregnancy. Hypercortisolism may be associated with a diabetogenic response or an increased insulinogenic response to glucose load.[16] In addition, administration of estrogens and progestins to adult subjects has been reported to induce impaired glucose tolerance in some individuals, as well as increased plasma insulin levels in response to a glucose load.[17,18]

To assess the effects of the various hormones produced during pregnancy (human chorionic gonadotropic hormone (HCG), HPL, estrogens, and progesterones) in terms of their relative effects on glucose immunoreactive insulin (IRI), and HGH levels, we performed the following studies.

Metabolic Effects of Human Chorionic Gonadotropin (HCG)

Five patients with trophoblastic disease were studied during an oral glucose tolerance test (GTT) and arginine infusion test. During oral GTT, the serum insulin levels were measured. Arginine monohydrochloride was infused to stimulate the release of insulin from the islet cells of the pancreas, and growth hormone from the pituitary gland. In trophoblastic disease where the human chorionic gonadotropic hormone is highly elevated, the blood glucose, serum insulin, and HGH were similar to that seen in normal nonpregnant subjects; they did not show the hyperglycemia, hyperinsulinemia, and low HGH levels seen in normal pregnancy. Also, the HCG level is highest in the first trimester of pregnancy, while the metabolic changes seen during pregnancy are more pronounced during the second and third trimester. Thus, our studies indicate that HCG is not responsible for the metabolic changes seen during pregnancy.[5]

Metabolic Effect of Estrogens, Progesterone, and Cortisol

To examine estrogen, progesterone, and cortisol effects during pregnancy, we studied four patients who were seen for the first time in the outpatient clinic with intrauterine fetal death. All four patients showed a diabetic blood sugar curve on testing. Also, all four patients showed low estrogen levels while two patients showed low progesterone levels. In all four patients, the total serum cortisol was low and was similar to the level seen in nonpregnant subjects. In all four patients, the only hormone which was consistently elevated was the human placental lactogen level which was within the normal range for a pregnant subject with a live fetus. The serum HGH level was subnormal. After delivery and fall of HPL to nonmeasurable levels, the blood sugar level improved considerably.[5]

These investigations substantiate our earlier findings as well as others that HPL has a significant metabolic role during pregnancy and that suppression of HGH

during pregnancy is most likely caused by the rise in serum HPL.

It has been shown that HPL induces lipolysis and elevation of fatty acids.[11] It has been postulated that the high-circulating free fatty acids provide energy for maternal metabolism and, together with the postulated intracellular rise in free fatty acids, inhibit glucose utilization by the mother. HPL may inhibit glucose uptake directly and gluconeogenesis directly and/or indirectly resulting in both glucose and protein sparing, which are essential for the growth of the fetus in utero.[11]

The amount of HPL excreted by the placenta is estimated to be approximately 2-3 gm/24 hr. This placental hormone does not cross the placental barrier. It is found only in insignificant amounts in the umbilical cord (50-100 ng/ml serum in the cord compared with 5,000-10,000 ng/ml in the maternal serum).[19]

HPL has a short half-life of 15 minutes. It disappears completely from the circulation within the first 24 hours after labor. The rapid disappearance of HPL from the maternal circulation and the continued suppression of HGH after delivery are most likely the factors responsible for increased insulin sensitivity in the postpartum period and the need for reducing the insulin dose in patients receiving insulin.

Hormonal Studies in Diabetic Pregnancy for Early Detection of Fetal Distress

Serum HPL: We established a radioimmunoassay of human placental lactogen in serum.[19] HPL could be detected as early as six weeks and could reach a plateau at 34 weeks of gestation, presumably coincident with the completion of the placental growth. We found no difference between the HPL in normal subjects and in diabetic patients with living babies, although the placental weight in diabetic subjects was significantly higher. It appears that the HPL level is related to the growth and function of the placenta rather than its weight. HPL levels in diabetic subjects who were delivered of stillborn infants before 35 weeks of gestation were either low initially and showed no subsequent rise, or were in the normal range during early pregnancy and failed to show the expected progressive rise. Single determinations of HPL in most of these cases would not have been reliable in predicting the outcome of pregnancy. In sequential samples, the lack of an expected rise or a drop is indicative of poor prognosis.[20,21]

Urinary Estriol: The excretion of estriol in the maternal urine increases approximately a thousand-fold from conception to term. During the first weeks of pregnancy, the estriol is derived from the metabolism of estrone and estradiol produced by the corpus luteum. Later, the placenta becomes the major site of estrogen production. The placenta derives many of the steroid precursors required for estrogen synthesis from other sites, the most important source being the adrenal glands of the fetus. The levels of estriol in the urine, therefore, reflect the combined functional capacity of the fetoplacental unit.

The level of urinary estriol increases gradually during the course of pregnancy. A fall in the urinary estriol level or a failure to rise is an indication of fetal distress.

In pregnancy, we found that the measurement of urinary estriol by gas chromatography was the method of choice, especially in diabetic patients. Glucose in urine may give false high values with the colorimetric method. Urinary estriol measurement was found to be the best indicator of the fetal condition. A fall in the urinary estriol or a failure to rise with progress of pregnancy is an indication of fetal jeopardy.[20,21]

We found no significant difference in the level of urinary estriol as expressed per 24-hour urine compared to that expressed as per gram creatinine. Thus, one single sample of urine may be sufficient to measure the urinary estriol, the results to be expressed as milligrams per gram creatinine.[21] Measurement of urinary pregnanediol, serum HCG, and HGH proved to be of no value in predicting the fetal outcome.[20,21]

With the recent development in technology, it will be possible for us to measure the serum HPL in 300 patients over a period of two or three hours and to measure serum estriol by the radioimmunoassay method which will replace the more expensive and time-consuming methods of measurement of urinary estriol.

Pathological Features of the Placenta from Diabetic Mothers

A technique for the sectioning of whole placentas has been developed in our laboratory and Department of Pathology, and it has been applied to studies made concomitantly with estimation of serum HPL, urinary estriol, and pregnanediol.[21] Diabetic placentae showed that the villi were loosely arranged and widely separated. The villi showed great disparity in size. The trophoblastic pattern is generally immature and there was edema in the stroma of the villi.

References

1. Kyle GC: Diabetes and pregnancy. Ann Intern Med 59:Suppl 3:1-82, 1963.

2. Bleicher SJ, O'Sullivan JB, Freinkel N: Carbohydrate metabolism in pregnancy. V. The interrelations of glucose, insulin and free fatty acids in late pregnancy and post partum. New Eng J Med 271:866-872, 1964.

3. Kalkhoff R, Schalch DS, Walker JL, et al: Diabetogenic factors associated with pregnancy. Trans Ass Amer Physicians 77:270-280, 1964.

4. Spellacy WN, Goetz FC: Plasma insulin in normal late pregnancy. New Eng J Med 268:988-991, 1963.

5. Samaan NA, McRoberts WA, Smith JP, et al: Metabolic changes after intrauterine fetal death compared with metabolic changes during normal pregnancy. J Clin Endocr 33:521-529, 1971.

6. Pearson OH, Shealy CN, Kaufman B, et al: Anterior pituitary function. Clin Neurosurg 13:265-276, 1966.

7. Yen SCC, Pearson OH, Stratman S: Growth hormone levels in maternal and cord blood. J Clin Endocr 25:655-660, 1965.

8. Samaan NA, Goplerud CP, Bradbury JT: Effect of arginine infusion on plasma levels of growth hormone, insulin, and glucose during pregnancy and the puerperium Amer J Obstet Gynec 107:1002-1007, 1970.

9. Josimovich JB, MacLaren JA: Presence in the human placenta and term serum of a highly lactogenic substance immunologically related to pituitary growth hormone. Endocrinology 71:209-220, 1962.

10. Yen SCC, Samaan NA, Pearson OH: Growth hormone levels in pregnancy. J Clin Endocr 27:1341-1347, 1967.

11. Grumbach MM, Kaplan SL: On the placental origin and purification of chorionic growth hormone-prolactin and its immunoassay in pregnancy. Trans NY Acad Sci 27:167-188, 1964.

12. Riggi SJ, Boshart CR, Bell PH, et al: Some effects of purified placental protein (human) on lipid and carbohydrate metabolism. Endocr 79:709-715, 1966.

13. Samaan NA, Yen SCC, Gonzalez D, et al: Metabolic effects of placental lactogen in man (HPL). The Endocrine Society 115:84, June 1966.

14. Samaan NA, Yen SCC, Gonzalez D, et al: Metabolic effects of placental lactogen (HPL) in man. J Clin Endocr 28:485-491, 1968.

15. Beck P, Daughaday WH: Human placental lactogen: Studies of its acute metabolic effect and disposition in normal man. J Clin Invest 46:103-110, 1967.

16. Perley M, Kipnis DM: Effect of glucocorticoids on plasma insulin. New Eng J Med 274:1237-1241, 1966.

17. Spellacy WN, Carlson KL: Plasma insulin and blood glucose levels in patients taking oral contraceptives. A preliminary report of a prospective study. Amer J Obstet Gynec 95:474-478, 1966.

18. Beck P, Hoff D: Estriol modification of the metabolic effects of progesterone (P) and human chorionic somatomammotropin (HCS) in Rhesus monkeys (abstract). Clin Res 18:621, 1970.

19. Samaan NA, Yen SCC, Friesen H, et al: Serum placental lactogen levels during pregnancy and in trophoblastic disease. J Clin Endocr 26:1303-1308, 1966.

20. Samaan NA, Bradbury JT, Goplerud CP: Serial hormonal studies in normal and abnormal pregnancy. Amer J Obstet Gynec 104:781-794, 1969.

21. Samaan NA, Gallager HS, McRoberts WA, et al: Serial estimation of human placental lactogen, estriol, and pregnanediol in pregnancy correlated with whole organ section of placenta. Amer J Obstet Gynec 109:63-73, 1971.

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These studies were made at the Western Reserve Medical School, Iowa Medical School, M.D. Anderson Hospital, Hermann Hospital, and The University of Texas Medical School at Houston.

This study was supported by USPHS, NIH grant no. CA 05831-11 and the American Cancer Society grant no. T-558.

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Contraindications: Pre-existing elevated serum potassium. Hypersensitivity to either component. Continued use in progressive renal or hepatic dysfunction or developing hyperkalemia.

Warnings: Do not use dietary potassium supplements or potassium salts unless hypokalemia develops or dietary potassium intake is markedly impaired. Enteric-coated potassium salts may cause small bowel stenosis with or without ulceration. Hyperkalemia (> 5.4 mEq/L) has been reported in 4% of patients under 60 years, in 12% of patients over 60 years, and in less than 8% of patients overall. Rarely, cases have been associated with cardiac irregularities. Accordingly, **check serum potassium during therapy, particularly in patients with suspected or confirmed renal insufficiency (e.g., elderly or diabetics). If hyperkalemia develops, substitute a thiazide alone. If spironolactone is used concomitantly with 'Dyazide', check serum potassium frequently**—both can cause potassium retention and sometimes hyperkalemia. Two deaths have been reported in patients on such combined therapy (in one, recommended dosage was exceeded; in the other, serum electrolytes were not properly monitored). Observe patients on 'Dyazide' regularly for possible blood dyscrasias, liver damage or other idiosyncratic reactions. Blood dyscrasias have been reported in patients receiving Dyrenium (triamterene, SK&F). Rarely, leukopenia, thrombocytopenia, agranulocytosis, and aplastic anemia have been reported with the thiazides. Watch for signs of impending coma in acutely ill cirrhotics. Thiazides are reported to cross the placental barrier and appear in breast milk. This may result in fetal or neonatal hyperbilirubinemia, thrombocytopenia, altered carbohydrate metabolism and possibly other adverse reactions that have occurred in the adult. When used during pregnancy or in women who might bear children, weigh potential benefits against possible hazards to fetus.

Precautions: Do periodic serum electrolyte and BUN determinations. Do periodic hematologic studies in cirrhotics with splenomegaly. Antihypertensive effects may be enhanced in postsympathectomy patients. The following may occur: hyperuricemia and gout, reversible nitrogen retention, decreasing alkali reserve with possible metabolic acidosis, hyperglycemia and glycosuria (diabetic insulin requirements may be altered), digitalis intoxication (in hypokalemia). Use cautiously in surgical patients. Concomitant use with antihypertensive agents may result in an additive hypotensive effect.

Adverse Reactions: Muscle cramps, weakness, dizziness, headache, dry mouth; anaphylaxis; rash, urticaria, photosensitivity, purpura, other dermatological conditions; nausea and vomiting (may indicate electrolyte imbalance), diarrhea, constipation, other gastrointestinal disturbances. Rarely, necrotizing vasculitis, paresthesias, icterus, pancreatitis, and xanthopsia have occurred with thiazides alone.

Supplied: Bottles of 100 capsules.

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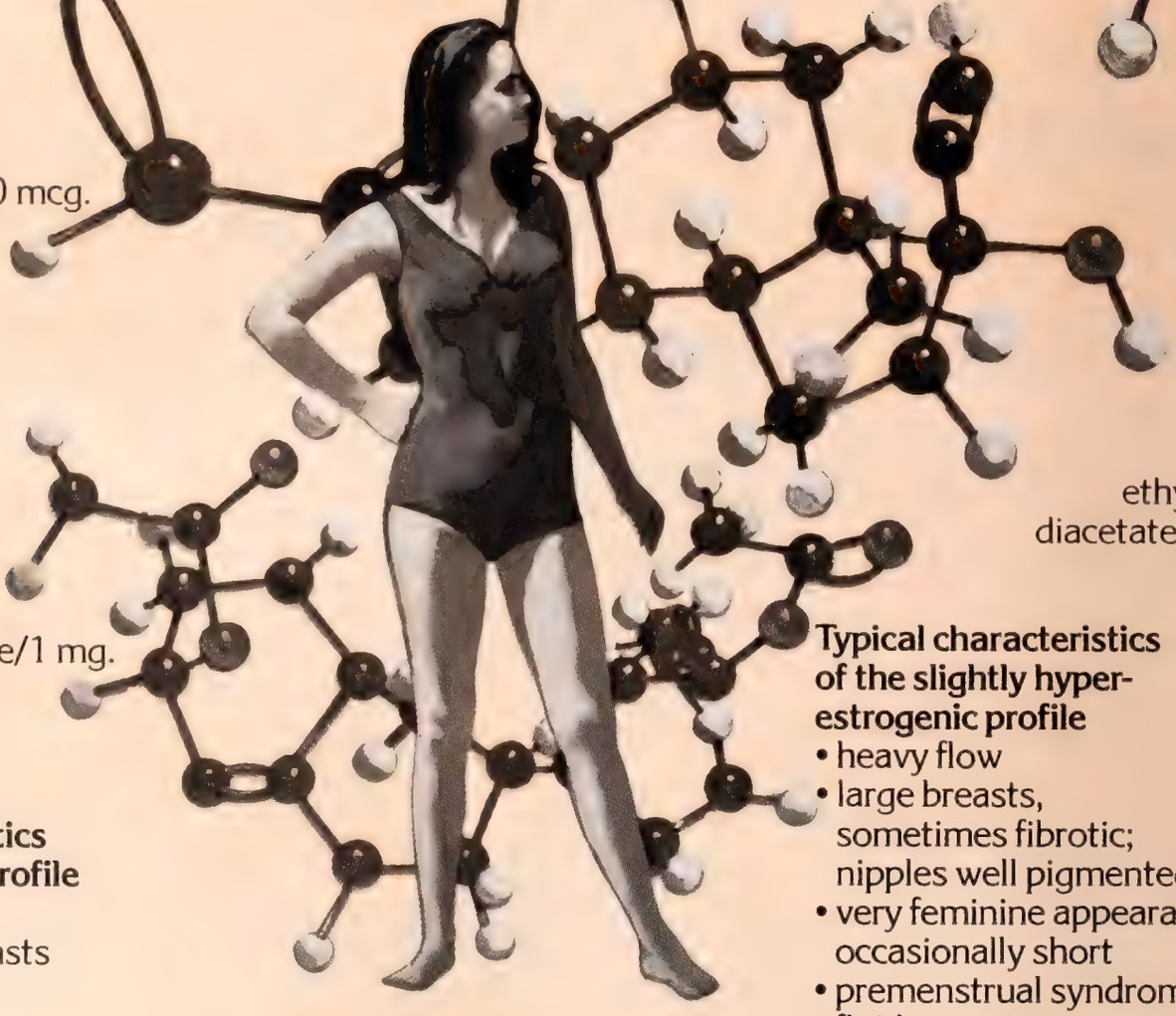

Typical characteristics of the "balanced" profile

- normal menses
- well-rounded breasts
- clear complexion
- normal figure with normal secondary sex characteristics
- normal cytohormonal pattern

This "center spectrum" pill has had excellent user acceptance for over seven years.

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Available in 20-, 21- and 28-pill schedules
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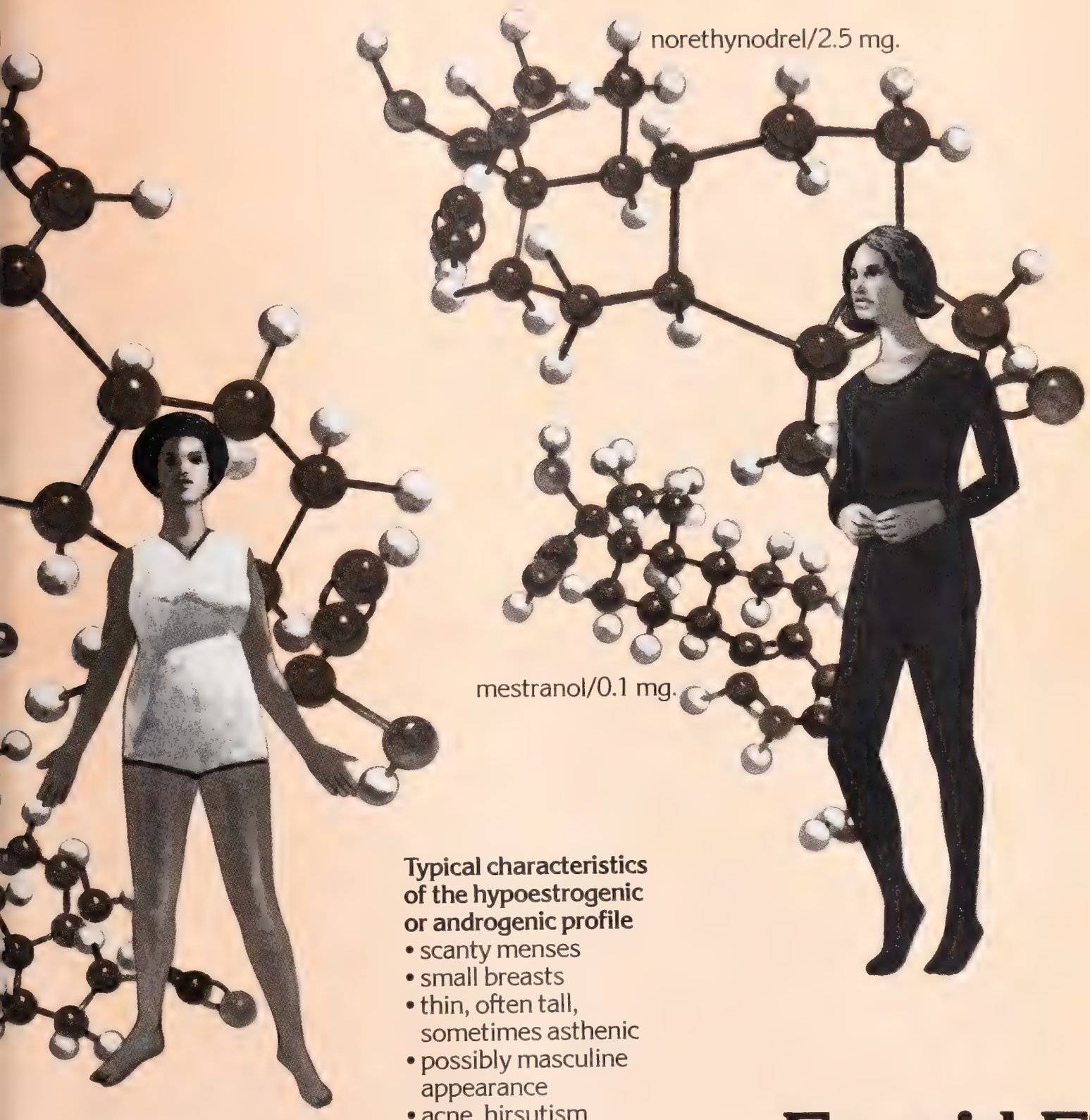
for the majority of women... when centrally balanced activity is preferred

Typical characteristics of the slightly hyperestrogenic profile

- heavy flow
- large breasts, sometimes fibrotic; nipples well pigmented
- very feminine appearance; occasionally short
- premenstrual syndrome, fluid retention
- tendency to uterine fibroids
- high pyknotic index

This formulation, which has less estrogenic activity and a moderate progestogen dominance, may be a good beginning.

For brief summary of prescribing information, please see next page.



Typical characteristics of the hypoestrogenic or androgenic profile

- scanty menses
- small breasts
- thin, often tall, sometimes asthenic
- possibly masculine appearance
- acne, hirsutism
- low sexual motivation
- thin vaginal lining, tendency to vaginitis and dyspareunia

This pill has a relatively weak and unique* progestogen with inherent estrogenicity. Clinically, just as in animal studies, it appears not to possess antiestrogenic and androgenic activity.

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Available in 21- and 28-pill schedules
Each white tablet contains: ethynodiol diacetate 1 mg./ethinyl estradiol 50 mcg. Each pink tablet in Demulen-28® is a placebo containing no active ingredients

well suited to most women when low estrogenic activity and moderate progestogen dominance are preferred

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a clear choice for women when estrogen dominance and no androgenic activity are preferred

*Of all the progestogens, norethynodrel most resembles the molecular structure of the estrogens. It has the weakest progestational activity of any progestogen in a combination pill.

Ovulen®

Each white tablet contains:
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Demulen®

Each white tablet contains:
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Each pink tablet in Ovulen-28® and Demulen-28® is a placebo, containing no active ingredients.

Actions—Ovulen and Demulen act to prevent ovulation by inhibiting the output of gonadotropins from the pituitary gland. Ovulen and Demulen depress the output of both the follicle-stimulating hormone (FSH) and the luteinizing hormone (LH).

Special note—Oral contraceptives have been marketed in the United States since 1960. Reported pregnancy rates vary from product to product. The effectiveness of the sequential products appears to be somewhat lower than that of the combination products. Both types provide almost completely effective contraception.

An increased risk of thromboembolic disease associated with the use of hormonal contraceptives has now been shown in studies conducted in both Great Britain and the United States. Other risks, such as those of elevated blood pressure, liver disease and reduced tolerance to carbohydrates, have not been quantitated with precision.

Long-term administration of both natural and synthetic estrogens in subprimate animal species in multiples of the human dose increases the frequency of some animal carcinomas. These data cannot be transposed directly to man. The possible carcinogenicity due to the estrogens can be neither affirmed nor refuted at this time. Close clinical surveillance of all women taking oral contraceptives must be continued.

Indication—Ovulen and Demulen are indicated for oral contraception.

Contraindications—Patients with thrombophlebitis, thromboembolic disorders, cerebral apoplexy or a past history of these conditions, markedly impaired liver function, known or suspected carcinoma of the breast, known or suspected estrogen-dependent neoplasia and undiagnosed abnormal genital bleeding.

Warnings—The physician should be alert to the earliest manifestations of thrombotic disorders (thrombophlebitis, cerebrovascular disorders, pulmonary embolism and retinal thrombosis). Should any of these occur or be suspected the drug should be discontinued immediately.

Retrospective studies of morbidity and mortality conducted in Great Britain and studies of morbidity in the United States have shown a statistically significant association between thrombophlebitis, pulmonary embolism, and cerebral thrombosis and embolism and the use of oral contraceptives. There have been three principal studies in Britain[1-3] leading to this conclusion, and one[4] in this country. The estimate of the relative risk of thromboembolism in the study by Vessey and Doll[3] was about sevenfold, while Sartwell and associates[4] in the United States found a relative risk of 4.4, meaning that the users are several times as likely to undergo thromboembolic disease without evident cause as nonusers. The American study also indicated that the risk did not persist after discontinuation of administration and that it was not enhanced by long-continued administration. The American study was not designed to evaluate a difference between products. However, the study suggested that there might be an increased risk of thromboembolic disease in users of sequential products. This risk cannot be quantitated, and further studies to confirm this finding are desirable.

Discontinue medication pending examination if there is sudden partial or complete loss of vision, or if there is a sudden onset of proptosis, diplopia or migraine. If examination reveals papilledema or retinal vascular lesions medication should be withdrawn.

Since the safety of Ovulen and Demulen in pregnancy has not been demonstrated, it is recommended that for any patient who has missed two consecutive periods pregnancy should be ruled out before continuing the contraceptive regimen. If the patient has not adhered to the prescribed schedule the possibility of pregnancy should be considered at the time of the first missed period.

A small fraction of the hormonal agents in oral contraceptives has been identified in the milk of mothers receiving these drugs. The long-range effect to the nursing infant cannot be determined at this time.

Precautions—The pretreatment and periodic physical examinations should include special reference to the breasts and pelvic organs, including a Papanicolaou smear since estrogens have been known to produce tumors, some of them malignant, in five species of subprimate animals. Endocrine and possibly liver function tests may be affected by treatment with Ovulen or Demulen. Therefore, if such tests are abnormal in a patient taking Ovulen or Demulen, it is recommended that they be repeated after the drug has been withdrawn for two months. Under the influence of progestogen-estrogen preparations pre-existing uterine fibromyomas may increase in size. Because these agents may cause some degree of fluid retention, conditions which might be influenced by this factor, such as epilepsy, migraine, asthma, cardiac or renal dysfunction, require careful observation. In breakthrough bleeding, and in all cases of irregular bleeding per vaginam, nonfunctional causes should be borne in mind. In undiagnosed bleeding per vaginam adequate diagnostic measures are indicated. Patients with a history of psychic depression should be carefully observed and the drug discontinued if the depression recurs to a serious degree. Any possible influence of prolonged Ovulen or Demulen therapy on pituitary, ovarian, adrenal, hepatic or uterine function awaits further study. A decrease in glucose tolerance has been observed in a significant percentage of patients on oral contraceptives. The mechanism of this decrease is obscure. For this reason, diabetic patients should be carefully observed while receiving Ovulen or Demulen therapy. The age of the patient constitutes no absolute limiting factor, although treatment with Ovulen or Demulen may mask the onset of the climacteric. The pathologist should be advised of Ovulen or Demulen therapy when relevant specimens are submitted. Susceptible women may experience an increase in blood pressure following administration of contraceptive steroids.

Adverse reactions observed in patients receiving oral contraceptives—A statistically significant association has been demonstrated between use of oral contraceptives and the following serious adverse reactions: thrombophlebitis, pulmonary embolism and cerebral thrombosis.

Although available evidence is suggestive of an association, such a relationship has been neither confirmed nor refuted for the following serious adverse reactions: neuro-ocular lesions, e.g., retinal thrombosis and optic neuritis.

The following adverse reactions are known to occur in patients receiving oral contraceptives: nausea, vomiting, gastrointestinal symptoms (such as abdominal cramps and bloating), breakthrough bleeding, spotting, change in menstrual flow, amenorrhea during and after treatment, edema, chloasma or melasma, breast changes (tenderness, enlargement and secretion), change in weight (increase or decrease), changes in cervical erosion and cervical secretions, suppression of lactation when given immediately post partum, cholestatic jaundice, migraine, rash (allergic), rise in blood pressure in susceptible individuals and mental depression.

Although the following adverse reactions have been reported in users of oral contraceptives, an association has been neither confirmed nor refuted: anovulation post treatment, premenstrual-like syndrome, changes in libido, changes in appetite, cystitis-like syndrome, headache, nervousness, dizziness, fatigue, backache, hirsutism, loss of scalp hair, erythema multiforme, erythema nodosum, hemorrhagic eruption and itching.

The following laboratory results may be altered by the use of oral contraceptives: hepatic function: increased sulfobromophthalein retention and other tests; coagulation tests: increase in prothrombin, Factors VII, VIII, IX and X; thyroid function: increase in PBI and butanol extractable protein bound iodine, and decrease in T^3 uptake values; metyrapone test and pregnanediol determination.

References: 1. Royal College of General Practitioners: Oral Contraception and Thrombo-Embolic Disease, J. Coll. Gen. Pract. *13*:267-279 (May) 1967. **2.** Inman, W. H. W., and Vessey, M. P.: Investigation of Deaths from Pulmonary, Coronary, and Cerebral Thrombosis and Embolism in Women of Child-Bearing Age, Brit. Med. J. 2:193-199 (April 27) 1968. **3.** Vessey, M. P., and Doll, R.: Investigation of Relation Between Use of Oral Contraceptives and Thromboembolic Disease. A Further Report, Brit. Med. J. 2:651-657 (June 14) 1969. **4.** Sartwell, P. E.; Masi, A. T.; Arthes, F. G.; Greene, G. R., and Smith, H. E.: Thromboembolism and Oral Contraceptives: An Epidemiologic Case-Control Study, Amer. J. Epidem. 90:365-380 (Nov.) 1969.

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Indication—Enovid-E is indicated for oral contraception.

The *Special Note, Contraindications, Warnings, Precautions* and *Adverse Reactions* listed above for Ovulen and Demulen are applicable to Enovid-E and should be observed when prescribing Enovid-E.

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Where "The Pill" Began

Breast reconstruction after radical mastectomy

Bromley S. Freeman, MD

Reconstruction of the breast after mastectomy for malignancy is increasingly important in the rehabilitation of the entire woman. Emotional distress occasioned by the loss or the potential loss of this "secondary sex organ" can be mitigated by preoperative counseling and postoperative plastic technics. These technics have now been made more feasible by the changing patterns of breast cancer, greater surgical competence, and prosthetic improvements.

The emotional impact after radical mastectomy in young women is always profound and usually permanent. Seemingly, the psychologic stress is less with the increase of age of the patient; the old, grateful for a cure, feel that no sexual symbol such as the breast is necessary to maintain their femininity. The severity of the grief for the missing breast is rarely recognized by the mastectomist, whose "tubular" vision sees merely a patient who is to be rescued from cancer and not the tender young woman who has had not only the fear of impending mutilation and death but also the knowledge that her feminine personality will be or has been irreparably damaged. Renneker and Cutler,[1] in 1952, equated mastectomy in the female with the castration complex in the male; although this may seem somewhat exaggerated, in some part it is quite apparent to those of us who see these patients during the years. Many have harbored these bitter thoughts deeply, allowing the persistent symptoms to surface 10 and even 20 years after the ablative surgery.

It is unnecessary to dwell upon the emotional indications, and this article has to do with the changing patterns of reconstruction of the breast during the past five years which are due to several factors: (1) change in the epidemiology of breast cancer, (2) a greater degree of competence in the average general surgeon, and (3) development of better prostheses. The major factor is the changing patterns of breast cancer,[2] which show significant trends toward smaller primary cancers and fewer axillary metastases during the past two decades. Various schemes for the management of breast cancer have in common the limitation of the radical mastectomy to stage C of the Columbia Clinical Classifications. Although there is noted the increasing use of radiation therapy in selected cases, the permanent radiation reactions in the covering skin are less severe. The survival rates remain the same but occult metastases are the cause of death![3]

Present cancer surgery includes "modified radical resection," leaving the muscle in place but with an axillary dissection. Some smaller types of tumors are amenable to what is called a "lumpectomy" and axillary dissection. Some, of course, are treated with radiation or "total," previously "simple," mastectomy. Urban's extended radical mastectomy is still used but in fewer clinics. Statistics have shown the advisability of resecting both breasts in many patients—hence the increased advocacy of subcutaneous mastectomy for the contralateral breast, lessening the plastic surgeon's problem of achieving symmetry.

Several things can, or should, be done for the woman who is to have or who has had a radical mastectomy. Since the development of alloplastic materials amenable to implantation with little local reaction, there have been a number of articles suggesting that implantation of a prosthesis is sufficient to restore the breast. The solution is not that simple. Prior to the popularity of the prosthesis, half of the opposite breast, if large, was transferred to the opposite side and multiple back, axillary and abdom-

inal flaps, and fat-fascia-dermal inserts were tried. All have been of some help; none have been magnificent although some of the results, after multiple trimmings, have looked quite good. The combination of effort has been of value.

After simple mastectomy and after the "modified" radical mastectomy, and not infrequently after a conservative type of radical mastectomy through a transverse incision by a considerate surgeon (who may even be willing to allow the plastic surgeon to remove the nipple-areola complex as a free graft), a simple implantation of a small-sized implant does limit the patient's feeling of mutilation. After the classic radical mastectomy, with the thinning of the flaps, the long scar, the extensive axillary dissection, removal of the muscle, and various drainage site scars, there are deformities which cannot be reconstructed or reduced by a simple implant.

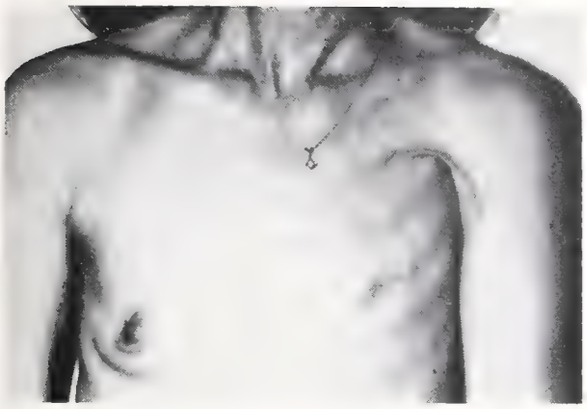
Examination of the mastectomized side reveals a cylindrical chest wall with absence of the sweeping lateral border of the pectoralis major muscle, a vacant, open axilla usually with a scar coming across up to the deltoid, an accentuated supraclavicular flattening or depression, and loss of the hemispheric breast mass and its areola-nipple complex (Fig 1), and all need correcting.

Until the past few years, when consulted regarding the reconstruction of a breast after radical mastectomy for malignancy, I have been exceedingly cautious because of the possibility of the release of occult tumor microfoci bound in scar tissue, and had not reconstructed any radical mastectomy defects earlier than five years after surgery. Occasionally I have offered to reconstruct the missing organ sooner in certain selected cases, but usually manage to procrastinate. Over the years the increased skin laxity gained through age compensated for skin and subcutaneous tissue removed, and permitted elevation of a chest flap and implantation of a modest-sized prosthesis, either sponge, gel, or bag. Reconstruction of the areola-nipple complex as well as revision of the opposite breast to a more aesthetic or simpler model; replacement of a structure to resemble the lateral border of the pectoralis muscle was a late part of the same procedure (Fig 2).

Now, inasmuch as 90% or more of the patients will not have local recurrence and their longevity depends entirely on the metastatic spread (either distance or to lymph nodes), what is done to the local wound is relatively less important for longevity, and may be of great importance to the patient's psyche.

Not only can plastic surgeons reconstruct, they also can offer *hope* of reconstruction. A patient with the most deformed chest wall following an Urban type of extended radical mastectomy can be promised, truthfully, later rehabilitation. An open analysis of the defects is presented and various necessary operative steps are outlined. Now she can carry on with the hope and knowledge that eventually she will be restored to what she considers to be the "complete" female.

A major problem in many patients after radical mastectomy is the tight chest wall because of an absolute lack of skin which requires replacement by flap—abdominal, posterior, axillary, or from the remaining breast. Skin flaps can be taken from the dependent portion of an excessively large or ptotic contralateral breast. After subcutaneous mastectomy and reduction of the nonaffected breast, tubed excess skin is transferred in stages to the deformed



1a. Torso after radical mastectomy with cylindrical chest wall, absence of the pectoralis major muscle, puckering scar crossing vacant, open axilla to the deltoid, accentuated supraclavicular, and costal depressions in addition to the loss of the breast mass and areolar nipple complex.

1b. Gel prosthesis in place, with brassiere, gave the patient a certain amount of comfort but the hollow axilla remained.

1c. A Teflon implant has diminished the intercostal depressions and filled the axilla somewhat, as well as offered the semblance of a pectoralis muscle border.

1d. Later picture shows changes in the breast lateralization and thinning of the skin secondary to the late internal contracture, which should be relieved.

chest. An implant can be inserted after a period sufficient to allow softening. Unless the skin is relaxed and any surface scoliosis corrected, any implant placed in scar-tensed skin will cause dangerous thinning and exposure.

To restore the diagonal sweep of the pectoralis muscle lateral border I have used dermis and fascial bands, "banana peel" de-epithelialized (denuded) flaps placed subcutaneously from the chest wall to the deltoid, Teflon sheets and silicone and polyurethane foam. None of the artificial materials have been without complications and none have quite come up to expectations. After implantation of folded sheets of Teflon there have been contractures, irregular bumps, and nodularities. The supraclavicular depression can be disguised, and the anterior axillary fold and pectoralis major lateral margin can be replaced, but it is difficult to maintain motion of the shoulder and arm without extrusion.

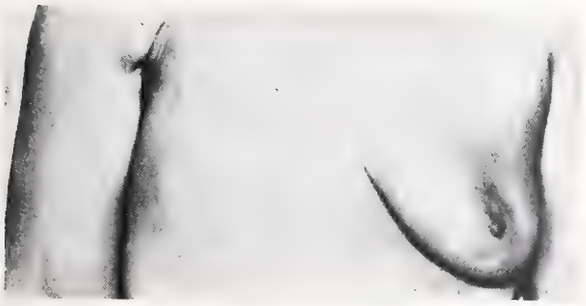
At present, we think that after radical mastectomy, preferably done through a transverse incision with the wound in good order (several weeks or at least ten days) after surgery, the chest wall can be opened and a flat, inflatable prosthesis laid over the chest wall with a minimum of fluid in it, the wound closed, and the patient discharged. Gradual and increasing inflations will permit stretching of the overlying skin, allowing at least a suggestion of a superior breast protuberance to present over the top of a dress, bathing suit, or bra, sufficient to give the patient a sense of security which she would not have otherwise.

Reported statistics show the progressive bilaterality of breast malignancy, ie, with the increase of years of follow-up, there is an increased tendency for disease to develop in the opposite breast. For the contralateral breast, staged-reduction, subcutaneous mastectomy with transplantation of the nipple, transfer of the excess skin (if available) to the opposite chest if necessary, and the implantation of modest-sized prostheses for symmetrical reconstruction of both breasts is desirable.[4] An inflatable prosthesis is preferable so that gradual increases or adjustments can be carried out with a minimum of surgery.

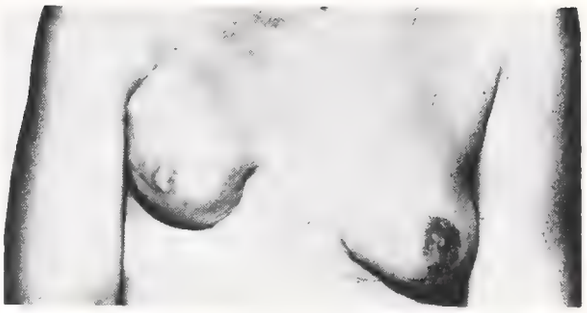
A special inflatable silicone prosthesis which mimics the pectoralis muscle rather than the breast has been designed (Fig 3), for initial insertion on the chest wall. At a second operation, a breast prosthesis could be positioned in a separate pocket. However, the dependent fluid has successfully mimicked a small breast when the patients are in sitting or standing positions.

Transplantation of the original nipple is desired but not essential. A fairly good nipple-areola complex is easily constructed from strips of the opposite enlarged areola, or from the labia minora. The usually enlarged areola may be transferred as part of a flap. At a second stage, the excess perimeter of the enlarged, pigmented areola is removed as a full-thickness graft and, rolled eccentrically to produce a circular shape to match the opposite residual areola, placed on the de-epithelialized dermis on the donor breast. (Edgerton occasionally allows the flaps to stabilize for a few days prior to fashioning the areola, and refrigerates the skin at 4C.) Tattooing a raised skin nipple with implantation of a button of a subdermal gel or a nubbin of ox-cartilage (as Gillies has done) have been fairly satisfactory.

We have accomplished a great measure of psychologic improvements in addition to the questionable physical improvement in all of the patients we have seen although, as most who are familiar with the subject have echoed, "no great triumphs of aes-



2a. Appearance after radical mastectomy with loss of the muscle but with transverse scarring in a plump woman with a ptotic, atrophic, contralateral breast.



2b. Reconstructed breast with the nipple areola complex taken from the opposite circumareolar skin three years after reconstruction. Lateralization and superior movement of the prosthesis require release and repositioning.

2c. Reconstructed breasts five years after release of the contractures of the right and revision of the "normal" breast to match the right breast.

3. Inflatable pectoral muscle prosthesis.

2d. Lateral view of the completely reconstructed breast eight years after operative procedure and five years after revision.

thetic surgery have been accomplished."[5] These patients have told of a great increase in the enjoyability of life. As a matter of fact, one patient said that by reconstructing a mound on her chest, the plastic surgeon had cured the sexual impotence of her husband of seven years' duration—seven years after mastectomy.

References

1. Renneker R, Cutler M: Psychological problems of adjustment to cancer of the breast. JAMA 148:833-838, 1952.

2. Cady B: Changing patterns of breast cancer. Arch Surg 104:266-269, 1972.

3. Humphrey LJ, Hammond WG: Treatment of primary breast cancer; change without improvement. Arch Surg 104:260-261, 1972.

4. Freeman BS: Subcutaneous mastectomy for central tumors of the breast. Plast Reconstr Surg 51: 263-267, 1973.

5. Snyderman RK, Guthrie RH: Reconstruction of the female breast following radical mastectomy. Plast Reconstr Surg 47:565-567, 1971.

Dr. Freeman, Clinical Professor of Plastic Surgery, Baylor College of Medicine. Office: 1810 The Medical Towers, Houston, Tex 77025.

Management of cervical dysplasia at Parkland Memorial Hospital

James M. Muse, MD
Frank Vellios, MD
Creighton L. Edwards, MD

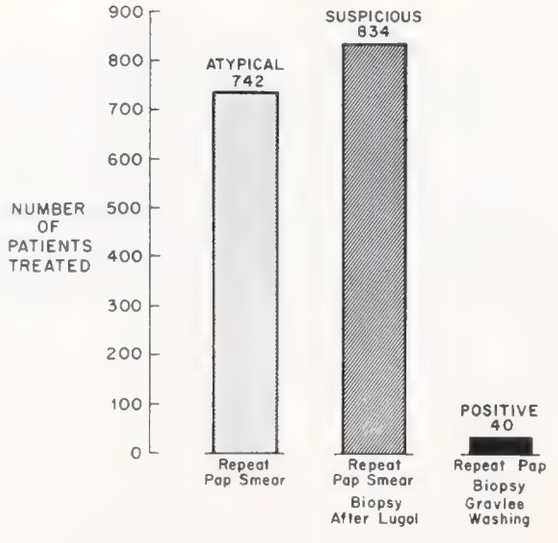
Recent statistics tell us that each year 30,000 new cases of carcinoma of the cervix are discovered in the United States; and that nearly 13,000 women die from this disease annually.[2] This article deals with dysplasia of the cervix, an entity that has been reported to be a forerunner to cervical carcinoma.[6,8] At Parkland Memorial Hospital in Dallas, we have attempted to detect cervical dysplasia earlier in women and to offer them a sound, practical approach when and if any changes develop in the cervical epithelium.

Material and Methods

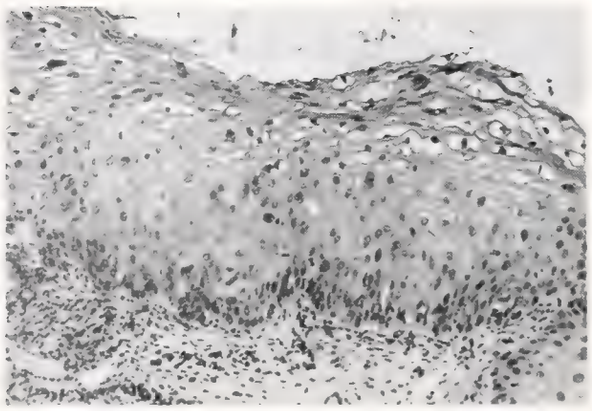
The Gyn Dysplasia Clinic was initiated in January, 1971, and was designed to see all patients with abnormal results of Papanicolaou smears of the cervix. The cytology section at Parkland reviews 30,000 smears annually, and reports them as negative, atypical, suspicious, or positive for malignant cells. Fig 1 shows that during the 15 months our clinic has been in operation, we have seen 1,616 patients with abnormal Papanicolaou smears. Cases are divided into atypical, suspicious, and positive groups. Patients with clinically apparent carcinoma were omitted from our study. After a history is obtained, the patient is given a complete physical examination. The women with atypical cytologies have a repeat smear, and any suspicious lesions are biopsied. All patients with suspicious smear results undergo a repeat smear and multiple cervical biopsies of the squamocolumnar junction after staining with Lugol's solution. In the women whose smears are positive, that test is repeated and, in addition, cervical biopsies are done. Any patient over age 40, or having a history of abnormal uterine bleeding, receives Gravlee jet washings and endometrial biopsies to rule out possible endometrial carcinoma. We have just recently begun using colposcopy as a guide in selecting the site for cervical biopsies.[4,7] The women are then asked to return in one to two weeks for the results of their tests. At this time we explain the findings and counsel them as to further follow-up and treatment plans. In surgical pathology the repeat smears and biopsies are reviewed and correlated, thereby determining the exact degree of cervical dysplasia. It is essential that the severity of the changes in the Papanicolaou smear are reflected in the cervical biopsies, or further biopsies are taken.[1]

Definition

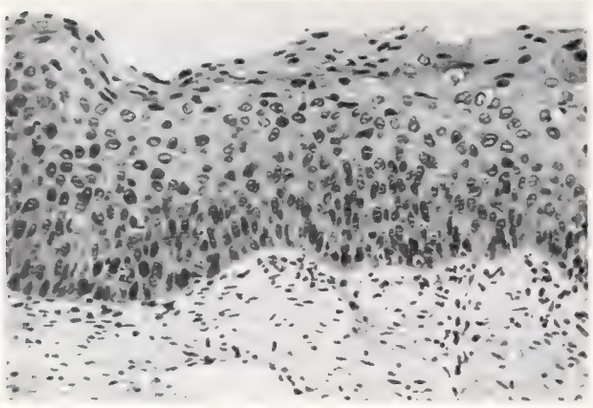
What do we mean by the term "cervical dysplasia?" It can be defined simply as an abnormality in the cervical epithelium that can have degrees of change ranging from slight to severe, but not defined by the criteria used for carcinoma-in-situ. Figs 2, 3, and 4 show examples of slight, moderate, and severe dysplasia. The minimal changes in slight dysplasia are confined to the basal



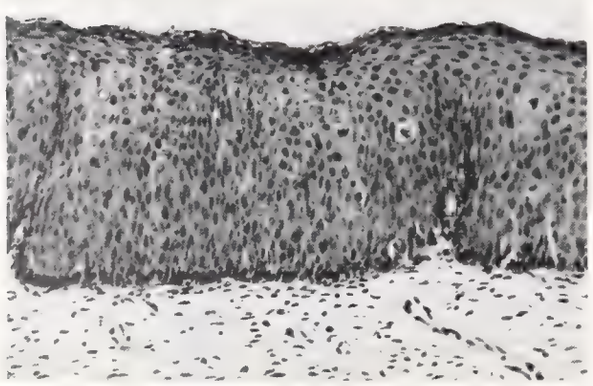
1. Distribution of Papanicolaou smear results in 1,616 patients referred to Dysplasia Clinic.



2. Slight dysplasia. Hematoxylin & eosin, X 79.5.



3. Moderate dysplasia. Hematoxylin & eosin, X 129.5.



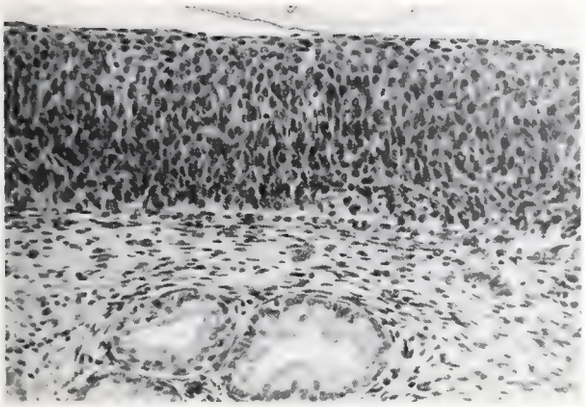
4. Severe dysplasia. Hematoxylin & eosin, X 119.

layer of epithelium. In moderate dysplasia we note the loss of polarity of cells and nuclear atypism in the lower one-half of the epithelium. These changes are more advanced in severe dysplasia. Fig 5 shows an example of carcinoma-in-situ, or so-called intraepithelial carcinoma. The total loss of maturation with full thickness involvement is characteristic of this entity. The basement membrane does remain intact in carcinoma-in-situ; Fig 6 shows an example of microinvasive carcinoma with cells invading through the basement membrane into the stroma for a limited distance.

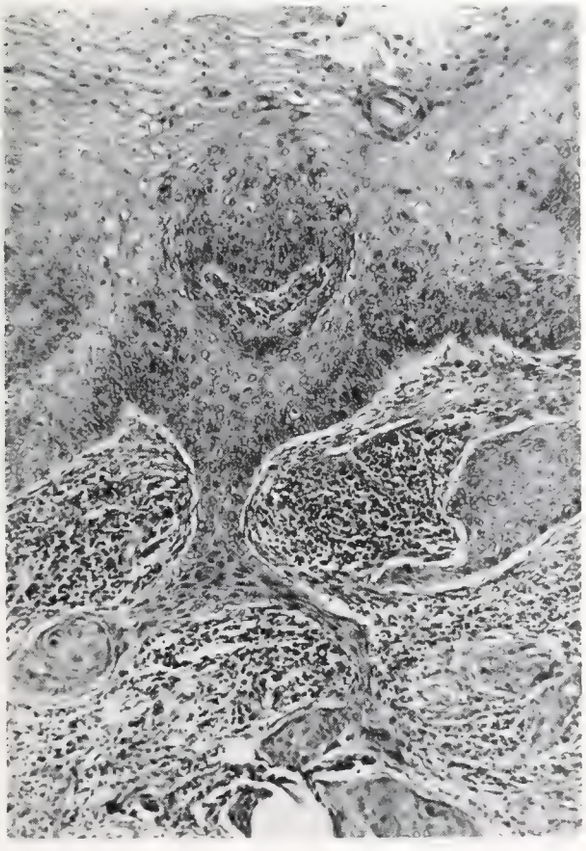
Results and Management

What have been our results during the first 15 months, and how have we elected to manage these patients? Fig 7 shows that from our group of 1,616 patients we detected 201 patients with slight dysplasia, 111 patients with moderate dysplasia, 24 with severe dysplasia, 37 with carcinoma-in-situ, and 6 patients with invasive epidermoid carcinoma. A large number of patients were found to have only inflammatory changes, and these women were treated with specific antitrichomonal or antimonilial agents and will return for a repeat smear in six months.

The group of 201 patients with slight dysplasia, as determined by correlation of the smear and biopsy, are not subjected to conization. They are candidates for cryotherapy, which consists of freezing the cervix with Freon to —60C for five minutes.[3,5] The cervical epithelium is destroyed and new cervical epithelium has regenerated in four weeks. Drs. John Jeffers and Tom Singly of our resident staff have followed 150 such patients treated by this method (Fig 8); 142 have had normal Papanicolaou smears six to eight weeks after therapy, and these have remained normal for six months.



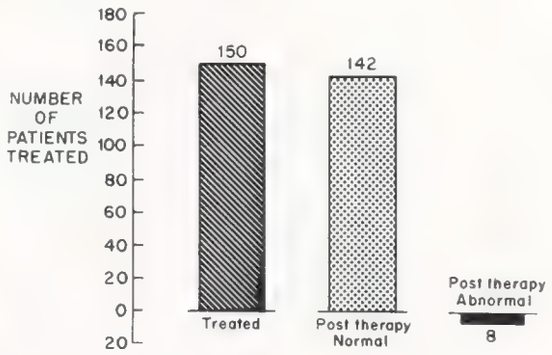
5. Carcinoma in situ. Hematoxylin & eosin, X 129.5.



6. Microinvasive carcinoma. Hematoxylin & eosin, X 69.6.

Inflammatory (chronic cervicitis)	1,237
Slight dysplasia	201
Moderate dysplasia	111
Severe dysplasia	24
Carcinoma-in-situ	37
Invasive carcinoma	6

7. Results of Papanicolaou smear and biopsy correlations, 1,616 abnormal smears.



8. Management of slight dysplasia by cryotherapy.

Only 8 of these women have shown persistent cervical dysplasia, and they underwent conization. Based on retrospective studies, we believe that the biopsies and smears provide a reliable diagnosis in slight dysplasia. This new treatment mode adequately treats the lesion and has decreased the number of conizations performed at Parkland. The hazards of general anesthesia and surgical morbidity and hospitalization expenses are eliminated in patients receiving cryotherapy on an outpatient basis.

All of our patients who demonstrate moderate or severe dysplasia or carcinoma-in-situ after correlation of the Papanicolaou smear and biopsies undergo conization. This is imperative so that a simple hysterectomy will not be performed on a patient with invasive cancer. If, after conization, these women desire to have children, they may be followed carefully with smear tests in our clinic. If they have other indications or do not wish to have more children, they are candidates for hysterectomy.

Summary

During a 15-month period, approximately 37,000 cervical smears were obtained in the OB-GYN clinics at Parkland Memorial Hospital. Some 1,616 patients with abnormal smears were studied in the Dysplasia Clinic. By using the correlation of Papanicolaou smear, cervical biopsies, Gravlee jet washing, and colposcopy, we have established a method of diagnosing the degree of cervical dysplasia in each patient. Then, we ascribe to the treatment plans outlined herein, after thorough counseling with each patient. It is imperative for the physician to be well versed in gynecologic pathology, and to consult with a competent pathologist concerning the interpretation of the Papanicolaou smear, biopsies, and the management of dysplastic lesions.

References

1. Christopherson WM, Gray LA, Parker JE: Role of punch biopsy in subclinical lesions of the uterine cervix. Obstet Gynec 30:806-811, 1967.

2. Green TH: Gynecology: Essentials of clinical practice. 2nd ed, Boston, Little, Brown & Co, 1971.

3. Kaufman RH, Conner JS: Cryosurgical treatment of cervical dysplasia. Amer J Obstet Gynec 109:1167-1174, 1971.

4. Lerch V, Okagaki T, Austin JH, et al: Cytologic findings in progression of anaplasia (dysplasia) to carcinoma-in-situ. A progress report. Acta Cytol 7:183-186, 1963.

5. Ostergard DR, Townsend DE: Journal of Cryosurgery, Vol 2, No 1, Feb, 1969.

6. Reagan JW, Patten SF: Dysplasia: a basic reaction to injury in the uterine cervix. Ann NY Acad Sci, 97:662-682, 1962.

7. Richart RM: Natural history of cervical intraepithelial neoplasia. Clin Obstet Gynec, 10:748-784, 1967.

8. Stern E, Neely PM: Carcinoma and dysplasia of the cervix. A comparison of rates for new and returning populations. Acta Cytol 7:357-361, 1963.

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Surgical management of malignant lesions of the skin

William J. Hardin, MD

Malignant skin lesions account for more deaths than is commonly realized. This article reviews the current accepted treatment for basal cell carcinoma, squamous cell carcinoma, and melanoma. Besides local and regional surgical procedures, only radiation is an acceptable form of treatment. Topical chemotherapy is considered experimental. Regional arterial perfusion with chemotherapeutic agents is useful both for cure and for palliation in melanoma.

The American Cancer Society estimates that 345,000 persons in the United States will die from cancer in 1972 and that skin cancer will cause 5,000 of these deaths.[1] Texas, one of the great natural reservoirs of skin cancer in the world, is predicted to have 8,000 new cases and 350 deaths from malignant lesions of the skin.

Too many people, both lay and professional, are not aware of the skin cancer problem. During 1972, 1,900 persons probably will die from cancer of the bone, 1,650 from cancer of the connective tissue, and 1,650 from cancer of the thyroid and other endocrine glands. The expected number of deaths from these three greatly feared cancers only equals the 5,200 deaths predicted for skin cancer. Also, a person generally will seek immediate medical care if a malignant lesion of the thyroid gland, bone, or connective tissue is suspected; but,too frequently, he will delay any diagnostic or therapeutic approach to an obvious cancer of the skin. Thus, a "superficial" skin lesion may become a life or death proposition.

This article reviews the current surgical management of basal cell carcinoma, squamous cell carcinoma, and melanoma. Management of basal cell and squamous cell carcinoma has had a rather uniform surgical approach during recent years, and any debate about management would concern the use of topical chemotherapeutic agents. The treatment of melanoma, however, is quite different from what it was two decades ago.

Basal Cell and Squamous Cell Carcinoma

Malignant lesions of the skin usually are of a low grade and they grow slowly. Types which metastasize do so rarely in the early stages, the first line of defense being the regional lymph nodes. Therefore, the cure rate is high when it is compared with that of visceral cancer.

Most patients with skin lesions initially consult dermatologists or general practitioners who refer selected cases to surgeons. Surgeons have four possible routes of therapy: (1) surgical excision with or without lymph node dissection; (2) curettage and electrodesiccation of the lesion; (3) referral to the radiotherapist; and (4) application of topical chemotherapy.

Each of these modalities of treatment has a definite place in the surgeon's armamentarium. Freeman and associates[2] reviewed 1,341 cases of skin cancer and compared the results of treatment with radiotherapy, surgical excision, and curettage followed by electrodesiccation. These three forms of treatment were considered to be successful; five-year cure rates ranged from 73 to 100%. (Whereas, chemotherapeutic approaches are often experimental, their present status will be mentioned.)

Irradiation is a useful therapeutic modality (1) in areas in which operative destruction of tissue is undesirable, ie, the nose and ears; (2) when it can be administered on an outpatient basis; and (3) when

an anesthetic and operative procedure can be avoided in patients who are in poor general health. Indeed, many patients with malignant skin lesions are elderly, have a multitude of medical problems, and cannot tolerate major surgical procedures.

Irradiation does have several disadvantages. Courses of therapy take longer than surgical excision of a small lesion; hence, treatment may be more expensive because of the many return visits. Occasionally, an unsightly or unhealthy irradiation scar develops and the final cosmetic result may be worse than that caused by surgical ablation. Also, the surrounding skin is damaged. Irradiation of only the visible lesion is impossible and even contraindicated.

Irradiation is an excellent therapeutic modality for basal and squamous cell carcinomas of the head and neck, but it probably should not be used for lesions of the trunk and extremities where local excision provides optimal treatment. There is no reason to advise radiotherapy because cosmetic problems are not encountered in these sites.

Curettage followed by electrodesiccation, a form of surgical treatment, has been championed by many dermatologists. This method was used for 947 of the 1,341 skin cancers reported by Freeman and coworkers.[2] From their data and the data of others, properly applied curettage and electrodesiccation is recognized as an effective treatment for skin cancer. This method is best used in the treatment of small basal and squamous cell carcinomas, provided the lesions are not ill-defined, sclerosing, or invading underlying fascia, cartilage, or bone. One of its chief advantages is that the diagnosis and definitive treatment can be accomplished in one office visit.

The technique for curettage and electrodesiccation is relatively simple. The lesion is infiltrated with local anesthetic, and a biopsy is obtained from the center of the lesion. After a diagnosis of basal or squamous cell carcinoma is determined, the lesion is curetted with a 6 or 8 mm curette until the base of the neoplasm is reached, as determined by an increase in tissue resistance. Once a firmness to curettage is encountered, the area is desiccated to a distance of about 2 to 4 mm beyond the curetted border. The process is then repeated, curetting the eschar away and desiccating again. The treatment site is usually left open, and healing is complete in from two to three weeks.

Surgical excision (with or without application of a skin graft and with or without regional lymph node dissection) is the third form of therapy. Basal and squamous cell carcinomas appear predominantly on exposed parts of the body. In about 90% of the cases, the lesions are on the face, neck, or backs of the hands. They are particularly common on the face, especially on the nose, cheeks, and ears. Wide surgical excision is generally all that is indicated for squamous cell carcinoma unless the regional lymph nodes are palpable. If they are palpable, a regional lymph node dissection (which usually means a radical neck dissection) is performed.

Prophylactic node dissections of the neck, axilla, or inguinal region are not considered necessary. Primary closure of the site of excision is accomplished when possible. If this is impossible, a pedicle flap, full thickness skin graft, or split thickness skin graft is applied to the area of the excision. The depth of the primary excision depends upon the degree of infiltration, and this factor determines which method of skin coverage should be utilized.

1. Clinical stages of melanoma, M.D. Anderson Hospital.

Stage 0	Superficial melanoma
Stage I	Primary melanoma, intact Primary melanoma, locally excised Multiple primary melanomata
Stage II	Local recurrence or metastases, all disease within 3 cm of primary site
Stage III	Regional metastases, lymph nodes or nodes plus skin
Stage IV	Distant metastases

A basal cell carcinoma requires only wide excision, with little attention being directed to the regional lymph nodes. The same criteria as for squamous cell carcinoma govern the depth of the excision and the decision to use primary closure or some method of plastic skin coverage. Basal cell carcinoma can metastasize, but metastasis is the rare exception rather than the rule. Only about 50 documented cases of metastatic basal cell carcinoma have been reported, and these were in patients with huge primary lesions that were neglected for years.[3] Basal cell carcinoma definitely can kill its victim by local invasion although metastasis does not occur frequently.

Topical chemotherapy is considered an acceptable form of therapy for selected cases of skin cancer. Since the early 1960s, topical 5-fluorouracil has been used experimentally. Now, this agent is being used in the clinical management of actinic keratoses, but few clinicians are suggesting that it be used for malignant lesions. However, Litwin and associates[4] have reported successful results when malignant lesions are too numerous and too widespread for other forms of therapy to be practical or even possible. For basal cell carcinoma, they advise daily application of 10% 5-fluorouracil in aquaphor cream for six weeks as a clinical trial. For squamous cell carcinoma, 20% 5-fluorouracil is used. They prefer aquaphor cream to a solution of 5-fluorouracil in propylene glycol because a cream can be applied with more precision than can a liquid. Their patients experienced the usual clinical response of inflammation, followed by gradual regression of the inflammation, disappearance of the lesion, and slow healing. The average period of application was 6 weeks, but some of the patients required daily therapy for as long as 16 weeks. Topical application was continued until the maximum inflammatory response was noted. If the basal cell lesions did not respond to the 10% concentration, the strength was increased to 20%. On the other hand, if too much response was elicited, the concentration was decreased to 5%.

If the response was too intense when a 20% concentration of 5-fluorouracil was used for squamous cell lesions, the concentration was decreased to 10%. This is a clinical trial. It would be advisable for the physician in private practice to limit the use of topical 5-fluorouracil to actinic keratotic lesions. Several commercial preparations are available in both the aquaphor cream and propylene glycol solution vehicles in strengths of 1%, 2%, and 5%.

The possibility of metastatic carcinoma should be considered when a cutaneous nodule is without ulceration. Metastasis to the skin usually develops in the terminal stages of disseminated malignant disease, but has been estimated by Beerman[5] to be present in from 1 to 3% of visceral carcinomas. The most common sites of origin in his series were the breast (50%), the stomach (15%), the lung (12%), the uterus (9%), and the kidney (9%). In patients with carcinoma of the breast who developed cutaneous metastasis, 33% of the lesions were in the scalp. Presumably, such metastases are established through late invasion of the blood stream.

Melanoma

The management of melanoma, which may be superficial or invasive, has undergone considerable change during the past 10 to 15 years. The superficial form (ie, without dermal invasion) accounts for 8 to 10% of melanomas; requires local excision only;

and, theoretically, should have 100% survival.[6] Regional lymph node dissection or other forms of therapy are not indicated. Application of a skin graft is warranted only if the lesion is so large that primary closure is impossible.

Clinical staging of melanoma is extremely important, and the best criteria for staging are those which have been advocated by McBride of M. D. Anderson Hospital (Fig 1).[7]

Surgical treatment of melanoma has several important surgical principles. The most important one is wide local excision. If at all possible, a 5 cm margin from the edge of the tumor is considered desirable. Two-thirds of the excision should be between the primary lesion and the regional lymph nodes, and one-third should be in the other direction. Practical considerations must be employed in resecting a 5 cm margin. Mutilative procedures should not be performed for lesions of the head and neck, but it is usually possible to follow this 5 cm margin for lesions of the trunk or extremities. As with squamous and basal cell carcinomas, primary closure is accomplished if possible; if impossible, plastic methods are utilized.

The depth of the excision has become controversial. Most surgeons have thought that the excision should go down to and include the fascia. This practice of removing the fascia goes back to Handley's 1907 report,[8] which suggested this measure after reviewing the autopsy findings of a patient who had died of disseminated melanoma. Thus, for some 65 years, practicing surgeons have been influenced by a report of a single case that had been managed unsuccessfully!

Olson,[9] of the Finsen Institute and Radium Center in Copenhagen, has presented both clinical and laboratory evidence to indicate that the deep fascia should be left intact rather than excised. She reviewed a large series of her personal cases and found that the group in which the fascia was excised had a 45% incidence of regional lymph node metastases within two years as compared to a 14% incidence in the group in which the fascia was left intact. In addition, to prove her point in the laboratory, she injected methylene blue beneath the fascia and noted that the dye readily passed into the subcutaneous region; whereas, when she injected it into the skin, no dye penetrated the fascia into the deep structures. Thus she concluded that the fascia must serve as a barrier preventing the passage of lymph and malignant cells into the deep lymphatic structures. Because of this convincing information, many surgeons now leave the deep fascia intact when excising a primary melanoma. Of course, a deeply invading lesion makes excision of the fascia mandatory.

The local surgical management of melanoma should be wide excision of the lesion, leaving the fascia intact. Primary closure can be accomplished in most instances. However, if a skin graft is required, an immediate split thickness skin graft should be applied, using a distant area of the body as the donor site. The donor site must never be situated between the primary lesion and the regional lymph nodes. Multiple cases of metastases to the donor site have been reported when this has been done, probably because of the increased vascularity at the donor site.

The regional lymph nodes have been handled differently in different centers. For years, Fortner and his associates at Memorial Hospital in New York have advocated "prophylactic" regional node dissection and have reported a high incidence of occult metastases, even when the nodes

were not clinically enlarged.[10] Other surgeons believe that regional lymph nodes should be left undisturbed in the absence of clinical disease. Two reasons for this policy are: (1) The regional nodes serve as the body's first defense against widespread dissemination. In most patients, the regional lymph nodes are the first area to become involved if metastasis does occur; hence, the lymph nodes provide the surgeon with a place to follow the progress of the disease. (2) Once regional nodes have been removed, alternate routes of lymphatic drainage are established and bizarre, widespread metastases may appear. For example, the right inguinal region may become involved after a left inguinal node dissection for a lesion that was originally on the left leg.

Regional perfusion of an extremity with chemotherapeutic agents is a modality of treatment that has been utilized since 1957.[11] This method consists of isolating the vascular supply of an extremity and, by use of a pump oxygenator, perfusing the isolated extremity with chemotherapeutic agents to levels 10 to 12 times higher than could be tolerated systemically. The purpose is to attempt to eradicate disease between the area of local excision and the regional lymph nodes which would be left totally untreated without perfusion. Currently, perfusion is utilized only for lesions of the extremities because multiple trials have shown that it is usually impossible to isolate the blood supply of intra-abdominal viscera, head and neck areas, and pelvic lesions.

Extremities are perfused when primary lesions are distal enough for adequate vascular isolation. Practically speaking, this means that lesions distal to the proximal one-third of the thigh and distal to the proximal one-third of the arm are perfused. Melanomas of the arm are perfused through the brachial vessels, and a tourniquet is placed proximal to the insertion of the catheters so as to totally isolate the extremity. Perfusion is accomplished through the iliac vessels for lesions of the lower extremity unless an associated femoral node dissection is done. In these patients, femoral arterial perfusion is utilized. In the usual case in which there is no evidence of groin metastasis, an extraperitoneal approach to the iliac vessels is used along with an iliac and obturator node dissection. The iliac vessels are cannulated and the obturator vessels are temporarily clamped. After perfusion has been initiated, the chemotherapeutic agent is injected into the closed sytem for 45 minutes. The agent of choice is phenylalanine mustard because it interferes with the metabolic formation of melanin, displacing one of the amino acids that is taken into the cellular cycle. Forty-five minutes is a practical period of perfusion. This is the half-life of the drug after it has been mixed. Longer periods of perfusion are less beneficial and increase the complications of the procedure.

During perfusion, the closed system is injected with radioactive iodine and a scintillation counter is placed over the heart as a monitor. Any loss of radioactivity into the systemic circulation would imply loss of the drug and possible toxic effects. Perfusion is accomplished under hyperthermic conditions to increase the metabolic activity of the drug and to cause cutaneous vasodilation which increases the flow of the drug through the skin. The skin is the main area in which chemotherapeutic activity is desired.

Until recently, it was thought that patients with large locally recurrent melanomas were not candidates for perfusion. Today, excellent palliation can be accom-

plished by perfusion. McBride[7] has shown a recurrence rate of only 9% within two years in 50 patients in whom there was no evidence of disseminated disease after perfusion of stage III lesions, indicating good local control of even advanced disease. For perfusion of macroscopic, or gross lesions, he advocates the use of three agents. In addition to phenylalanine mustard, he adds actinomycin-D and nitrogen mustard to the closed system. A five-year survival rate of approximately 70% accompanies surgical management of primary melanoma of the extremities. By adding perfusion, the five-year survival rate is increased to approximately 84%. Management of patients with stage II disease provides a five-year survival rate of about 50%; only 25% of patients with stage III disease are expected to survive for five years, and patients with stage IV rarely survive. Thus, it appears that perfusion with chemotherapeutic agents would slightly increase the five-year survival rate and provide excellent palliation by enabling a patient with advanced local disease to maintain a useful extremity throughout the remainder of his life.

Perfusion does have its complications. Wound infection, temporary or persistent edema of the extremity, nerve and muscle damage, thrombophlebitis, and arterial thrombosis may follow perfusion. Agranulocytosis may occur in a few patients, but leukopenia has developed in a significant number because of the effect of the phenylalanine mustard. In addition, atelectasis and urinary infections occur as with any surgical procedure. Probably the most troublesome long-range complication is persistent edema.

For current management of melanoma, I recommend wide local excision of the primary lesion leaving the fascia intact, with application of a skin graft only if necessary. The regional nodes should be left undisturbed unless they are clinically palpable; then, a regional node dissection is indicated. Perfusion is useful for curative reasons in primary lesions of the extremities, and for palliative reasons in more advanced cases.

References

1. Estimated cancer deaths—1972. CA 22:10-13, 1972.
2. Freeman RG, Knox JM, Heaton CL: The treatment of skin cancer. A statistical study of 1,341 skin tumors comparing results obtained with irradiation, surgery, and curettage followed by electrodesiccation. Cancer 17:535-538, 1964.
3. Urbach F, Alkek DS: Metastatic basal cell carcinoma. Arch Derm 99:777-778, 1969.
4. Litwin S, Ryan RF, Reed RJ, et al: Topical chemotherapy of cutaneous malignancy of the head and neck. Southern Med J 62:556-558, 1969.
5. Beerman H: Some aspects of cutaneous malignancy. Arch Derm 99:617-626, 1969.
6. DeCosse JJ, McNeer G: Superficial melanoma. A clinical study. Arch Surg 99:531-534, 1969.
7. McBride CM: Advanced melanoma of the extremities. Arch Surg 101:122-126, 1970.
8. Handley WS: The pathology of melanotic growths in relation to their operative treatment. Lancet 1:927, 1907.
9. Olson G: Removal of fascia—cause of more frequent metastases of malignant melanomas of the skin to regional lymph nodes? Cancer 17:1159-1164, 1964.
10. Fortner JG, Booher RJ, Pack GT: Results of groin dissection for malignant melanoma in 220 patients. Surgery 55:485-494, 1964.
11. Ryan RF, Krementz ET, Creech O, Jr, et al: Selected perfusion of isolated viscera with chemotherapeutic agents using an extracorporeal circuit. Surg Forum 8:158-161, 1957.

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Mesh skin grafts in the management of open fractures with skin defects

M. C. Wilber, MD

Mesh skin grafting is an excellent method to use in treating open fractures with skin defects. This is particularly true in situations where the standard split thickness skin graft is not indicated because of the condition of the wound. The many advantages of the mesh grafting techniques are enumerated and the technique is reviewed with selected material to illustrate the usefulness of the method.

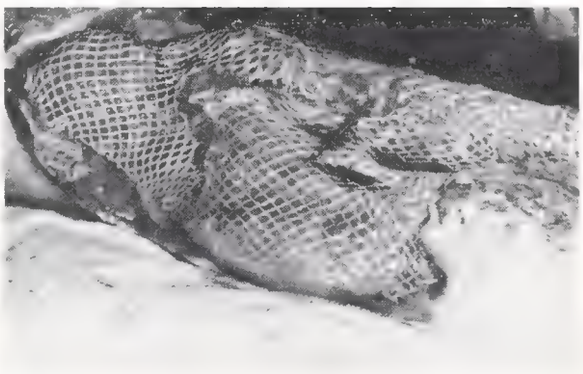
Since the introduction of the technique of mesh skin grafting in 1964 by Tanner et al,[1] this method of resurfacing large traumatic skin defects resulting from war wounds has yielded excellent results.[2] The management of open fractures of the extremities sustained in combat by early mesh skin grafting provided a rapid and satisfactory skin defect cover which in some instances contributed greatly to the saving of the limb (Figs 1-3).

Relatively large traumatic skin defects are problems in management primarily because of donor skin requirements, protein loss, infection, and/or hypertrophic granulations.

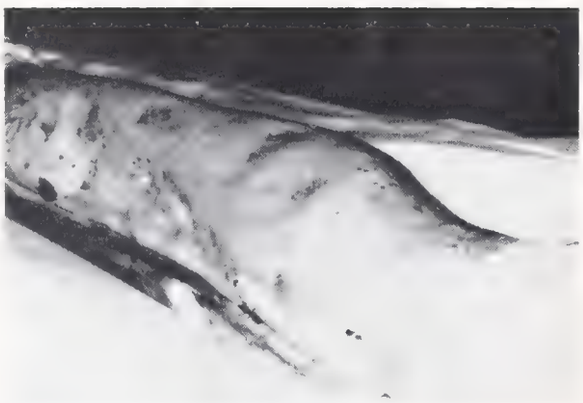
The solution to most of these problems is early and complete skin coverage. Delay in resurfacing with split thickness skin is usually due to local wound infection or an unsatisfactory recipient bed, or both.

Delay was the rule until 1964, when Tanner et al, introduced the mesh skin graft. The advantages of the mesh grafting technique are: (1) earlier grafting possible, (2) maximum coverage with minimum skin, (3) easy conformity of graft to irregular surface contours, (4) efficient drainage of the graft site, (5) many fold increase in edge exposure yielding rapid epithelialization, (6) minimum graft contracture, and (7) replacement unnecessary.

1. Open fracture prior to mesh grafting.

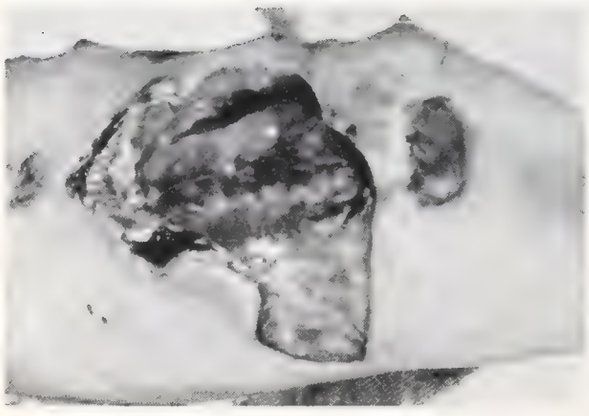


2. Wound immediately following debridement and mesh grafting.



3. Resultant appearance of grafted area.

4. Appearance of split thickness skin after "meshing."



5. Open tibial fracture prior to mesh grafting.

Technique

The donor and recipient skin graft sites are prepared in a routine manner using Betadine, and the operative areas are appropriately draped. Standard (.012-.015 inches) split thickness skin grafts are obtained with a Brown Dermatome and placed in a Dermacarrier. The newer Meshgraft II Dermacarriers are designed to produce an expansion ratio of 0.5:1, 3:1, 6:1, and 9:1. As a rule, the carrier yielding the 3:1 expansion ratio is satisfactory for covering most open fracture wounds. The smaller ratio carrier is primarily for cosmetic surgery and the larger ratio carrier is used when donor skin is limited. As one passes the carrier through the dermatome, he must take care that the cut end of the graft and its carrier covering disengage from the cutting blades on the roller. This is necessary on both the Tanner-Vandeput and the newer Meshgraft II Dermatomes. The resulting mesh graft (Fig 4) is removed and applied in its expanded state to the wound previously prepared by debridement. Meshgraft edges can be "steri-stripped" and the graft covered with gauze fine enough to diminish graft adherence and coarse enough to permit drainage through the gauze. Stenting is advisable in most cases to permit even compression of the graft against the recipient bed. Cotton soaked in saline is one satisfactory method. The outer dressing consists of gauze, Kerlix, and Ace bandages. Dressings are changed at seven days. As previously reported,[2] epithelialization occurs rapidly between the meshes which, in the interim, have permitted the passage of various types of exudates. An average of 80% "takes" can be anticipated in the early coverage of traumatic wounds.[2]

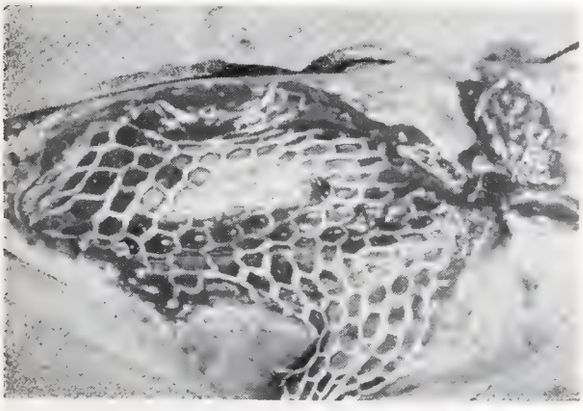
Comment

In civilian practice, the meshing technique has had its largest application in the management of skin defects resulting from burns.[3,4] The mesh skin grafting technique, in the author's opinion, deserves a greater role in the surgeon's early management of skin defects associated with open fractures (Figs 5-7). As one gains experience in the use of the mesh graft, he will tend to use it earlier and he may, in selected cases, choose to apply a mesh graft at the time of initial debridement of the open fracture.

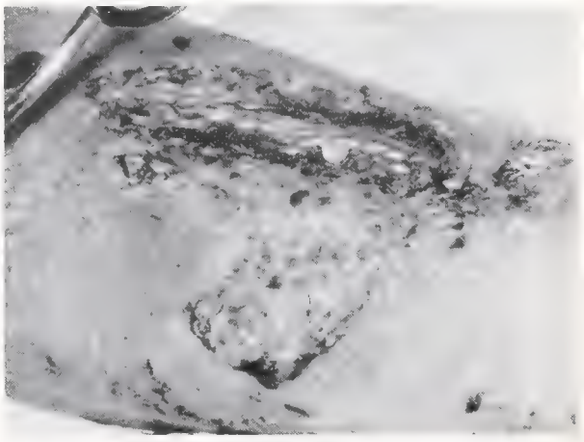
References

1. Tanner JC, Vandeput J, Olley JF: The mesh skin graft. Plas Reconstr Surg 34:287-292, 1964.
2. Baksic RW, Wilber MC, Willett LV Jr, et al: The use of mesh skin grafts in war wounds. J Trauma 10:608-610, 1970.
3. Stone HH, Hobby LW: Use of the mesh dermatome with split thickness grafts for major burns. Amer Surg 31:583-586, 1965.
4. Tanner JC, Vandeput J, Bradley WH: Two years with mesh skin grafting. Amer J Surg 111:543-547, 1966.

Dr. Wilber, Orthopaedic Surgery, The University of Texas Medical Branch, Galveston, Texas 77550.



6. Fracture stabilized with metallic fixation and wound mesh grafted.



7. Appearance of wound just prior to cross leg grafting.

Immunofluorescence in chronic nonhereditary blistering disease

Samuel F. Bean, MD

The chronic nonhereditary blistering diseases (pemphigus, bullous pemphigoid, benign mucosal pemphigoid, dermatitis herpetiformis) have unique and specific immunologic characteristics which may be demonstrated by immunofluorescence. In conjunction with the clinical and histologic features of each disease, these immunologic characteristics have proved to be useful as a diagnostic aid while also serving as a stimulus for investigation into the etiology of these disorders.

The application of the fluorescent staining technique to the study of blistering diseases has revealed specific epithelial antibodies to be present in the skin, serum, and blister fluid of most patients with pemphigus and bullous pemphigoid. In the pemphigus group in which the blister forms intraepidermally, the fluorescent staining is intracellular. In bullous pemphigoid in which the blister forms subepidermally, the fluorescence occurs at the basement membrane zone.[1] Recent investigations have also demonstrated fixed and, more rarely, circulating basement membrane zone antibodies in patients with benign mucosal pemphigoid.[2] Also, deposits of IgA have been demonstrated in the perilesional tissue of patients with dermatitis herpetiformis. However, no circulating epithelial antibodies have been reported in this disease.[3]

These investigations have been useful for they have afforded clinicians another diagnostic tool and have stimulated speculation about the etiology of the chronic nonhereditary blistering diseases.

Technique

Direct: The patient's tissue is used; quick frozen (liquid nitrogen or dry ice) cryostat cut sections are placed on glass slides. The sections are then incubated with antihuman immunoglobulin (IgG, IgM, etc) conjugated with fluorescein isocyanate (conjugate). These preparations are then read with a fluorescent microscope.[1]

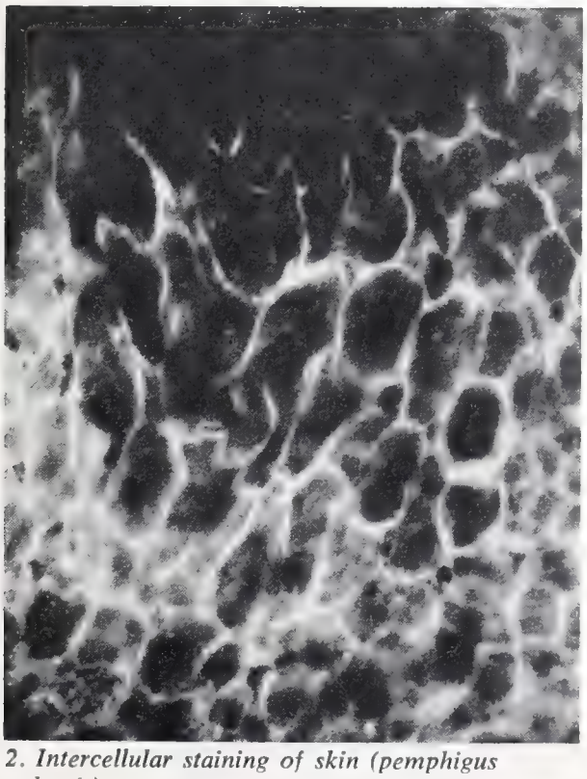
Indirect: Another epithelial substrate tissue such as monkey or guinea pig esophagus is used; quick frozen cryostat cut sections are placed on a glass slide to which is added either the patient's serum or blister fluid; it is then incubated with the fluorescein conjugated antihuman immunoglobulin. The preparations are read with a fluorescent microscope.[1]

Pemphigus Vulgaris

Pemphigus vulgaris is characterized by generalized flaccid bullae which usually arise on normal skin. After the blisters rupture, the denuded areas continue to enlarge peripherally and there is little tendency to heal. Scarring does not occur and itching is rare. Most persons with pemphigus vulgaris have oral lesions sometime during their illness. Untreated, the prognosis of pemphigus vulgaris is grave. The usual age of onset of pemphigus vulgaris is between 40 and 60 years.[4] However, Jordon et al have reviewed the literature and found five well-documented cases of pemphigus vulgaris occurring in children.[5] The course in children is similar to that of adults. The treatment of choice is high doses of corticosteroids. Some success has been noted with the use of immunosuppressive agents such as methotrexate or Imuran in combination with the corticosteroids (Fig 1).

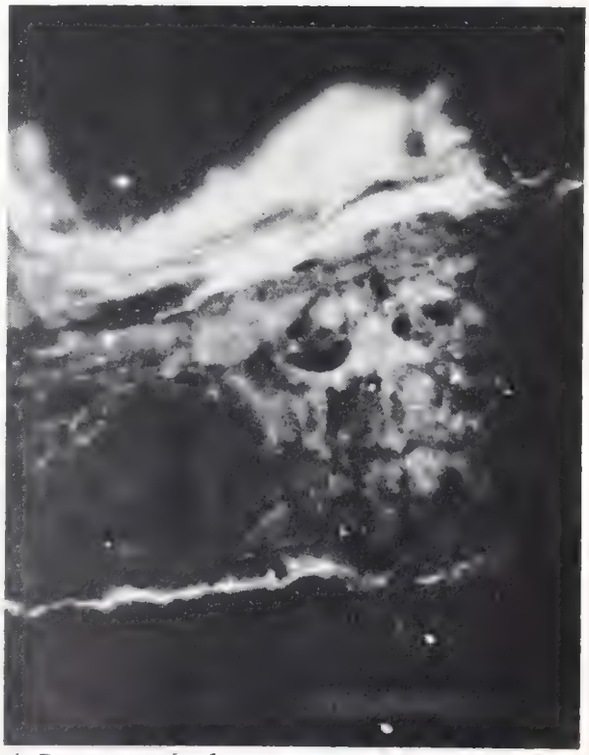
Most persons who have active pemphigus vulgaris or one of the pemphigus group of diseases (pemphigus erythematosus,

1. Pemphigus vulgaris.

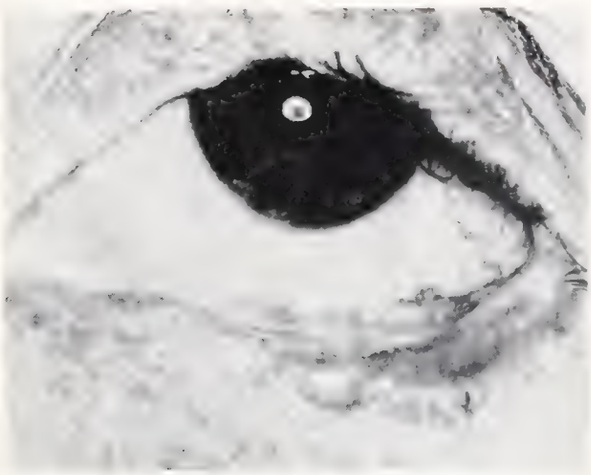


2. Intercellular staining of skin (pemphigus vulgaris).

3. Bullous pemphigoid.



4. Basement membrane zone staining of skin (bullous pemphigoid).



5. Cicatricial pemphigoid.

6. Basement membrane zone staining of oral mucosa (cicatricial pemphigoid).

pemphigus foliaceus, or pemphigus vegetans) have circulating antibodies to the intercellular substance; when the patient's involved tissue is used, virtually all cases show intercellular staining[1] (Fig 2).

Bullous Pemphigoid

Bullous pemphigoid usually occurs in older individuals and is a chronic disorder characterized by large, tense bullae which usually arise on an erythematous urticarial base. Itching usually is present. Oral lesions are present in about one-third of cases. It is generally self-limited with exacerbations and remission as a rule. Histologically a subepidermal blister is present[4] (Fig 3).

Although it is more common in older individuals, true bullous pemphigoid defined by basement membrane antibody has been reported in children.[5] Treatment is with corticosteroids or, more recently, corticosteroids in combination with immunosuppressive agents.

Eighty percent of persons with bullous pemphigoid have circulating basement membrane zone antibodies; direct study of these patients' involved skin is always positive for basement membrane zone antibodies[1] (Fig 4).

Benign Mucosal Pemphigoid (Cicatricial Pemphigoid)

Benign mucosal pemphigoid is a well defined clinical and histologic entity which is characterized by blistering of the mucous membranes, particularly the oral mucosa and the conjunctiva (Fig 5). Skin involvement occurs in from one-fourth to one-third of the cases. Histologically, the bulla forms subepidermally and often cannot be distinguished from that of bullous pemphi-

goid.[4] The original immunofluorescent studies of skin and serum from patients with cicatricial pemphigoid failed to demonstrate basement membrane antibodies which are present in most cases of bullous pemphigoid.[1] The lack of these basement membrane antibodies cast some doubt on the suggestion that a relationship might exist between these two diseases. Recently, however, immunofluorescent studies of specimens of skin, conjunctiva and oral mucosa from active cases of cicatricial pemphigoid have demonstrated the existence of in vivo fixed immunoglobulin at the basement membrane zone identical to that found in bullous pemphigoid[2] (Fig 6). More recently, in one patient with a fairly generalized cutaneous eruption, I also was able to demonstrate circulating basement membrane antibody in a low titer (1:20) (unpublished data). These immunofluorescent studies support those who believe that mucosal pemphigoid is a localized variant of bullous pemphigoid.

Dermatitis Herpetiformis

Dermatitis herpetiformis is a well recognized chronic blistering disease characterized by pruritic polymorphous eruption consisting of erythematous papules, vesicles, and papulovesicles which occur symmetrically and predominantly involve the knees, elbows, buttocks, scapular area, and scalp. Oral lesions are rare. Occasionally excoriations are the only visible evidence of the disease. Dermatitis herpetiformis usually shows a remarkable and rapid response to sulfapyridine or the sulfones. Histopathologically a well developed lesion shows a subepidermal blister.[4] The onset of dermatitis herpetiformis usually occurs between ages 20 and 50; however, a number of well documented cases of dermatitis herpetiformis in children have been reported.[5] Recently, immunofluorescent studies have demonstrated the deposition of immunoglobulin IgA in the dermal papillae of biopsies from the perilesional skin. No circulating antibodies have been demonstrated in dermatitis herpetiformis.[3]

Comment

The characteristic immunological changes present in the chronic nonhereditary blistering diseases have served a useful purpose as an aid in the diagnosis of these disorders. Also in conjunction with the clinical and histologic picture, the immunologic features demonstrated by immunofluorescence have provided a more rational classification and stimulated speculation about the autoimmune etiology of these diseases. Beutner, et al,[1] have summarized the evidence for an autoimmune etiology as follows: (1) The intercellular and basement membrane zone antibodies found in both pemphigus and pemphigoid are autoantibodies. (2) The histologic location of these antibodies corresponds to the site of primary demonstrable histopathologic change. (3) These antibodies thus far have only been found in pemphigus and pemphigoid. (4) In pemphigus, the severity of the lesions is proportional to the titer of the intercellular antibodies. In pemphigoid, the presence of antibodies in the circulation is usually associated with active disease. (5) Immunization of rabbits with insoluble or soluble factions of stratified squamous epithelium has yielded pemphigus-like antibodies. The evidence presented is mostly circumstantial. Unequivocal proof would come as a result of passively transferring pemphigus and pemphigoid with serum containing these antibodies.

Sams, et al,[6] reported that in preliminary transfusion studies using serum from patients with bullous pemphigoid and pemphigus they were unable to produce the disease in monkeys. Beutner, on the other hand, reports (unpublished data) that multiple intradermal injections into the oral mucosa of monkeys yielded lesions that are clinically, histologically, and immunologically identical to pemphigus.

Speculation that pemphigus and pemphigoid are autoimmune disease has also been strengthened by their frequent association with disorders of an autoimmune nature. The association of pemphigus with myasthenia gravis, thymoma, lupus erythematosus, and rheumatoid arthritis has been reported.[1] Jordon, et al,[5] reported three patients with coexisting lupus erythematosus and bullous pemphigoid. Bullous pemphigoid also has been associated with scleroderma, multiple sclerosis, and ulcerative colitis (unpublished data). Dermatitis herpetiformis has occurred in association with lupus erythematosus and rheumatoid arthritis (unpublished data). When these diseases occur in association with each other, immunologic changes such as muscular, nuclear, intercellular, and basement membrane antibodies may be demonstrated by immunofluorescence.

Whatever the etiological and immunological ramifications brought forth by these investigations ultimately may be, utilization of the immunofluorescent technique by the clinician as an adjunct in the diagnosis of blistering disease currently provides a more enlightened and knowledgeable approach to diagnosis, therapy, and follow-up care.

References

1. Beutner EH: Autosensitization in Pemphigus and Bullous Pemphigoid. Springfield, Ill, Charles C Thomas, 1970.

2. Bean SF, Waisman M, Michel B, et al: Cicatricial pemphigoid: immunofluorescent studies. Arch Dermat 106:195-199, 1972.

3. Chorzelski TP, Beutner EH, Jablonska S, et al: Immunofluorescence studies in the diagnosis of dermatitis herpetiformis and its differentiation from bullous pemphigoid. J Invest Dermatol 56:373-380, 1971.

4. Lever WF: Pemphigus and Bullous Pemphigoid. Springfield, Ill, Charles C Thomas, 1965.

5. Bean SF, Jordon RE, Winkelmann RK, et al: Chronic nonhereditary blistering disease in children: immunofluorescent studies. Amer J Dis Chil 122:137-141, 1971.

6. Sams WM, Jordon RE: Pemphigus antibodies: Their role in disease. J Invest Dermatol 56:474-479, 1971.

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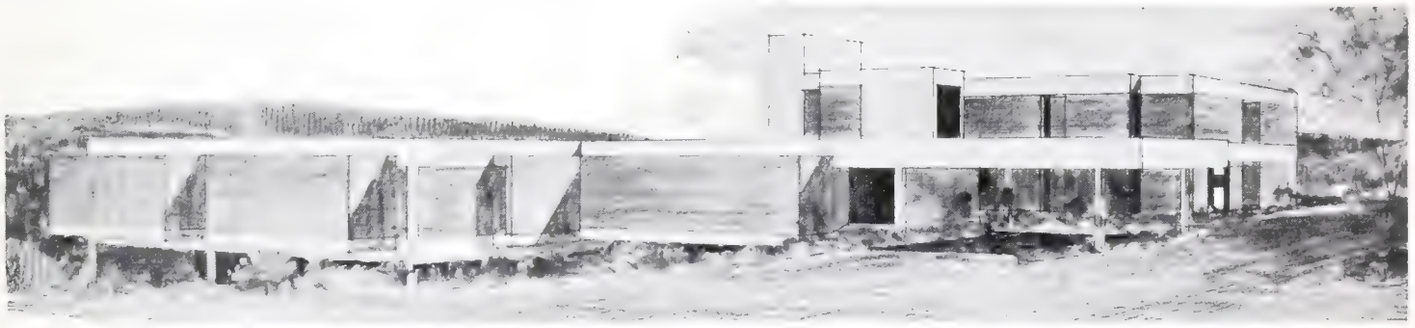

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Clinical evaluation of topical vitamin A acid in therapy of acne vulgaris

Donald W. Owens, MD

Vitamin A acid is an effective topical medication for acne vulgaris. It promises to add an excellent additional tool to the physician's armamentarium against this scarring (emotional as well as physical) scourge of teenage and early adult years. In an investigation involving patients with acne vulgaris of varying degrees of severity, vitamin A acid proved to be significantly superior to placebo in producing improvement. All 13 patients treated with vitamin A acid improved at some time during the study, most to a marked to moderate degree, with every patient except one maintaining improvement at the time of final evaluation. Only 3 of the 15 placebo-treated patients improved.

Acne vulgaris is a common disorder, affecting 90% of adolescents. Much is known about its pathogenesis, yet response to therapy may at times be discouraging to both doctor and patient. Acne usually has its onset at puberty corresponding to sebaceous gland enlargement stimulated by sex hormones. A plug of keratin and sebum (comedone or blackhead) occludes this pilosebaceous duct. Then bacteria residing in the duct, especially *Corynebacterium acnes*, act on neutral fat which has been manufactured in the sebaceous gland and convert it to irritating free fatty acids. If sufficiently irritating, this results in rupture of the duct with release of keratin, sebum, and bacteria into the dermis. Foreign body reaction and cyst formation occur followed by healing with scar formation. The effectiveness of antibiotics in acne relates to their suppression of *C acnes* with less production of the irritating free fatty acids.

Hormones play an essential role in the development of acne, since to a large degree they control the activity of the sebaceous gland. These glands are highly sensitive to androgen and in males are stimulated at puberty by testosterone. Most evidence indicates that androgens manufactured in the ovary are the source of hormonal stimulation in females. Certainly, in females cyclic estrogen therapy for acne is often beneficial, presumably because estrogens suppress sebaceous gland secretion.

Many topical preparations are in existence for the treatment of acne. They largely act to dry the skin and promote desquamation. This in turn reduces comedone formation which is the primary event in acne development. Recently, topical vitamin A acid* has been used with good success in acne.[1-7] Its beneficial effect is thought to result largely from its potent anticomedone action.

To further evaluate the effectiveness of vitamin A acid, a placebo-controlled study was carried out in a private patient population with acne vulgaris of varying degrees of severity. Of special interest in the study were the onset of pharmacological activity, patterns of patient response to therapy, and regulation of dose to achieve and maintain improvement without adverse reactions.

Methods

Thirty patients with acne vulgaris in Pillsbury grade II, III, or IV were selected from a private practice and were randomly assigned to two drug groups: one group to receive vitamin A acid and the other to receive placebo. Two patients, both in the vitamin A acid group, dropped out of the study; one failed to return after an initial visit and the other after the first week. Because adequate assessment of response could not be made for these patients, they were excluded

*Also known as retinoic acid and tretinoin.

from the final evaluation. The characteristics of the remaining 28 patients are presented in Fig. 1.

Tubes containing either 0.1% vitamin A acid in a cream base or placebo (cream base) were randomly assigned, under double-blind conditions, to these patients as they entered the study. The patients were instructed to apply the creams to affected areas after washing with a bland soap. Initially, the creams were scheduled for twice-a-day application, in the morning and at bedtime. But then, if necessary, the frequency of application was increased or decreased to produce the proper degree of erythema or to reduce excessive dryness and irritation. Patient participation in the study was terminated when maximal therapeutic effect was judged to have occurred (Fig 2).

The severity of acne was initially evaluated for all patients; in each case it was either marked or moderate. Evaluations of response to therapy, based on reduction from this initial severity, were made periodically over the study period. At the end of the study, the double-blind code was broken; and the data from the evaluations were compared for statistically significant differences in ability of the medications to produce improvement.

Results

A summary of response to therapy is given in Fig 3. This table shows that patient response to vitamin A acid was significantly superior ($P < .01$, Chi square test) to response to placebo. All patients except two (85%) experienced marked or moderate relief, compared with only two patients (13%) treated with placebo. Interestingly, both of the vitamin A acid-treated patients in Pillsbury group IV responded with marked or moderate improvement, indicating effectiveness of the drug in treating cystic acne.

Response to vitamin A acid followed a typical pattern. At the end of the first week, most patients had developed moderate erythema, irritation and dryness, indicative of the pharmacological activity of the drug necessary to produce benefit. By this time six patients had improved, although on the basis of previous reports improvement was expected to require several weeks. Generally, these patients continued to improve during the study period, with all the other vitamin A acid-treated patients later joining their improved group. Maximum improvement usually occurred at about the sixth to eighth week of therapy. (Figs 4, 5)

During the early part of the therapy period, some of the vitamin A acid-treated patients showed a characteristic pattern, noted in previous investigations, of conversion of noninflammatory closed comedones into inflammatory pustules prior to their desquamation. This, together with the erythema, produced a worse cosmetic effect. But these patients had been advised that the worsening was a necessary intermediate step in the therapeutic process, and all patients remained in the study. The patients improved with duration of therapy and individualization of dose, and for most a completely acceptable cosmetic condition was achieved and maintained.

Dosage adjustments were made for 9 of the 13 vitamin A acid-treated patients during the course of therapy. Seven were reductions in frequency, to either once daily or once every other day, and two were increases. In every patient except one on the reduced dosages, good drug effect continued. The exception, a patient whose frequency of application was reduced to once daily, experienced an exacerbation of acne

Drug Group	Total No. Patients	Sex		Age, Mean (Range)	Pillsbury Grade		
		M	F		II	III	IV
Vitamin A acid	13	6	7	18.0 (14-25)	9	2	2
Placebo	15	4	11	18.9 (15-25)	7	8	0

1. Patient characteristics.

2. Duration of therapy.

Drug Group	Days	
	Mean	Range
Vitamin A acid	55.3	28-92
Placebo	40.9	16-75

to initial severity. Of the two patients applying vitamin A acid only once every other day,one achieved marked improvement by the end of the test period and the other continued to maintain the moderate improvement already achieved.

Comment

Since every vitamin A acid-treated patient improved at some time during the study, it appears that the drug is a most effective medication for acne vulgaris. It produces no apparent systemic toxicity or other adverse reactions except for those which are associated with increased pharmacological activity from overdosage and which can be easily controlled through temporary discontinuation or reduction in frequency of application. Also, since both vitamin A acid-treated patients with cystic lesions improved, the use of the drug may lessen the need for long-term antibiotic therapy.

The only disadvantage of vitamin A acid therapy seems to be the worsened cosmetic effect initially produced, which may discourage patients from continuing therapy. This disadvantage, however, can be offset by properly preparing patients for the expected pharmacological effect of the drug.

The frequency of application needed to achieve and maintain improvement varies from patient to patient. Although a few patients may require application of the cream three times a day, most will require less—many only once a day; some only once every other day. For each patient, the least frequent interval seems indicated to avoid excessive erythema, dryness, and irritation, especially for maintenance therapy after the desired cosmetic effect has been achieved. With such individualization of dose, long-term therapy with vitamin A acid appears to pose no particular problems.

References

1. Kligman AM, Fulton JE, Jr, Plewig G: Topical vitamin A acid in acne vulgaris. Arch Derm 99:469-476, 1969.

2. McGillis TJ, Rapaport MJ, Reisner RM, et al: Topical vitamin A acid in the management of comedo acne. Cutis 7:144-150, 1971.

3. Weary PE: Comedogenic potential of the lipid extract of *Pityrosporum ovale*. Arch Dermatol 102:84-91, 1970.

4. Plewig G: Vitamin A acid. Topical treatment in acne vulgaris. Penn Med 72:33-35,1969.

5. Bradford LG, Montes LF: Effect of topical vitamin A acid on acne vulgaris. Presented at the 119th Annual Convention of the American Medical Association, Chicago (June) 1970.

6. Pedace FJ, Stoughton R: Topical retinoic acid in acne vulgaris. Brit J Derm 84:465-469, 1971.

7. Olson RL: Treatment of acne with vitamin A acid and tetracycline. Cutis 8:285-287, 1971.

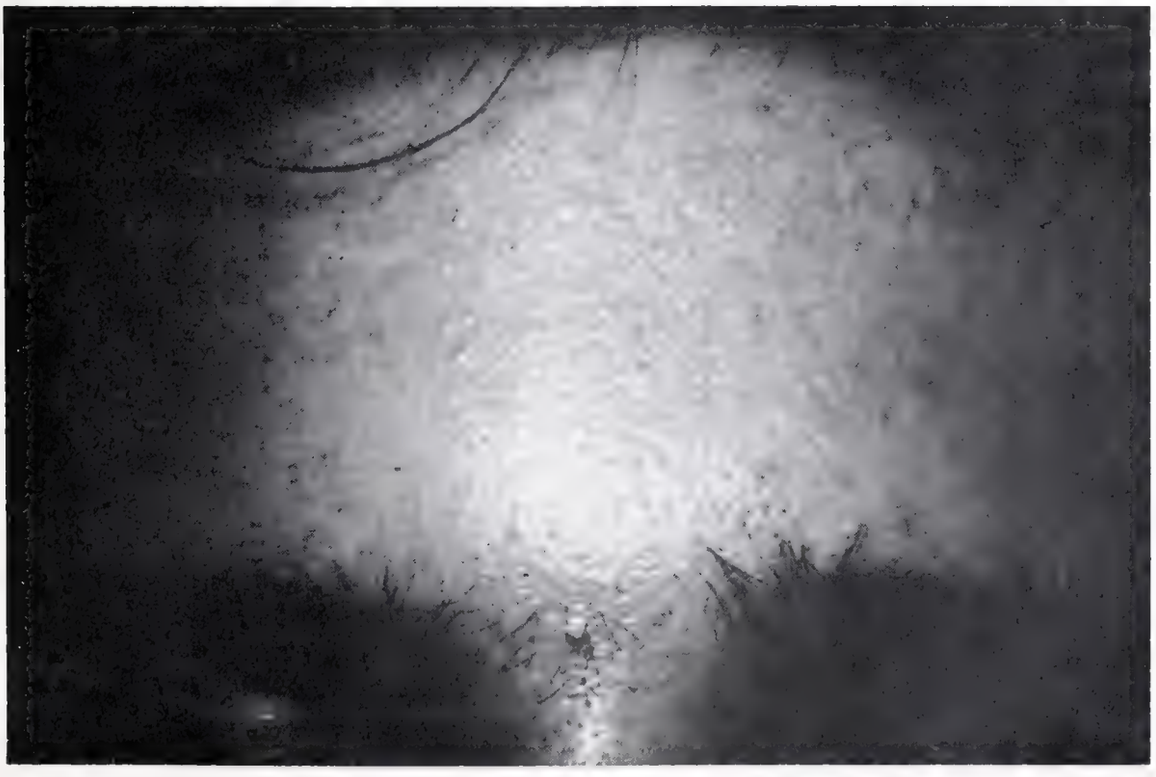
Dr. Owens, assistant professor of dermatology, Baylor College of Medicine, Houston. Office: Kelsey-Seybold Clinic, 6624 Fannin St., Houston, Texas 77025.

3. Therapeutic response.

Drug Group	Final Evaluation				
	Improvement			None	Worse
	Marked	Moderate	Minimal		
Vitamin A acid	5	6	1	1	0
Placebo	0	2	1	11	1

4. Patient prior to treatment.

5. Patient after using vitamin A acid for eight weeks.



Be prepared for learning and fun at 106th Annual Session

A problem in deduction

A physician packs a bag containing the following items: street clothes, note pads, tape recorder, extra pens and pencils, evening wear, sports clothes, golf clubs, tennis racquet, rifle, and a small sculpture which he has just completed. Where is he going?

Give up? You shouldn't have, because the answer is easy. This traveling physician is going to the Texas Medical Association's 106th Annual Session May 3-6 in Dallas. What's more, he'll be able to use all of the things he packed.

The street clothes, note pads, pens and pencils, and tape recorder will be important items for scientific sessions, specialty society meetings, continental breakfasts, and curbstone consultations scheduled for the four-day annual meeting. The evening clothes of course, will come in handy when the physician attends the Saturday Night at the Fairmont party on the closing evening of the meeting. There will be cocktails, dining and dancing to the music of the Mal Fitch Orchestra, all set in the elegant surroundings of the Fairmont's International Ballroom. In addition, there is a plethora of nightspots in Dallas awaiting the Annual Session visitor.

TEXAS HIGHWAY DEPARTMENT

The sports clothes and equipment will be necessary for the tennis, skeet and trap, and golf tournaments. Sports events begin as early as Tuesday May 1.

The sculpture? Well, that's our physician's entry in the annual Physicians' and Wives' Art Exhibition, which will be held Thursday through Saturday in the Regency Ballroom of the Fairmont. In addition to sculpture, talented artists will also be exhibiting paintings, photographs, and arts and crafts.

And so, it's plain to see that there's sure to be something to interest all who attend the 106th Annual Session. A quick scan of the Advance Program, mailed to all TMA members in early April, will show the following line-up of events.

Science

Forty-seven guest speakers will participate in meetings of 17 scientific sections, 36 related medical organizations, 12 special symposia and seminars, 20 curbstone consultations, and 16 continental breakfast roundtables.

Three new scientific sections will be meeting this year. The Section on Allergy meets from 9 a.m. until noon Friday. The Sections on Diseases of

the Chest and Nuclear Medicine, also meeting for the first time, are both scheduled to run from 10 a.m. until noon and 2 until 4:30 p.m. on Saturday. Other scientific section meetings include Family Practice, Internal Medicine, Ophthalmology, Otolaryngology, Physical Medicine and Rehabilitation, Radiology, Surgery, and Urology, all meeting on Friday. On Saturday, section meetings include Digestive Diseases, Obstetrics and Gynecology, Ophthalmology, Otolaryngology, Nervous and Mental Diseases, Pathology, and Pediatrics.

A whole group of specialty societies have scheduled meetings to coincide with the Annual Session. Some of them include: American College of Chest Physicians, Texas Chapter; American Medical Writers Association, Southwestern Chapter; American Psychiatric Association, Texas District Branch; Conference of City and County Health Officers; Flying Physicians Association, Texas Chapter; International College of Surgeons, Texas State Surgical Division; Texas Air-Medics Association; Texas Association of Physicians in Nuclear Medicine; Texas Association of Public Health Physicians; Texas Diabetes Association; Texas Ophthalmological Association; Texas Orthopaedic Association; Texas Otolaryngological Association; Texas Physical Medicine and Rehabilitation Society; Texas Proctologic Society; Texas Society of Anesthesiologists; Texas Rheumatism Association; Texas Society of Athletic Team Physicians; Texas Society of Plastic Surgeons; and Texas Society for Surgery of Trauma.

Twelve special symposia are scheduled dealing with subjects including school health, medical history, hemophilia, cancer, cardiovascular diseases, cardiac and stroke rehabilitation, alcoholism, cerebral palsy, maternal health, medicine and religion, and trauma.

TEXAS HIGHWAY DEPARTMENT

Always a popular Annual Session feature, this year's slate of Curbstone Consultations promises to be especially interesting. Twenty topics are scheduled for two sessions—from 5 until 6 p.m. on Friday and from 4:30 until 5:30 p.m. Saturday. Among the topics to be discussed are yoga, transcendental meditation, alpha brainwave meditation, autogenics, vasectomy, acupuncture, surgical injuries of the genitourinary tract, and interpretation of chest x-rays.

Entertainment

In addition to the purely professional meetings, a complete slate of luncheons, dinners, and other entertainment events are planned. On both Friday and Saturday, there will be General Meeting Luncheons, featuring AMA President C. A. "Carl" Hoffman, Friday, and *Modern Medicine* editor Irvine Page Saturday.

On Thursday and Friday evenings, class reunions, fraternity reunions, and alumni functions are scheduled. On Saturday, of course, the "Saturday Night at the Fairmont" party will take place in the International Ballroom. And all four days will offer ample opportunity to meet new friends and renew old acquaintances.

Competitions

For competitive-minded TMA members, or those who just like sports, tournaments in tennis, golf, and skeet and trap will take place in Dallas. The golf tournament will be held Wednesday at the Greater Southwest Golf Club in Arlington. Tennis is slated to begin Tuesday at the Samuell T. Grand Recreational Center, and the skeet and trap events begin at 1 p.m. Thursday at the Dallas Gun Club. The Sixth Annual Physicians' and Wives' Art Exhibition will be held Thursday through Saturday in the Regency Ballroom of the Fairmont. Paintings of all kinds, photographs, sculpture, and arts and crafts created by TMA members or their spouses, will be on display.

TEXAS HIGHWAY DEPARTMENT

Dallas

Surrounding it all, of course, will be the city of Dallas, a bustling metropolis of over 1.6 million people. Dallas has become cosmopolitan without losing its friendly Texas ambience, giving rise to its slogan, "City with the Charm of Yesterday and the Spirit of Tomorrow." Headquarters hotels are the Fairmont, for scientific sessions and exhibits; the Statler-Hilton, for business sessions; and the Sheraton-Dallas for auxiliary meetings. All are situated in the heart of downtown, giving the Annual Session goer easy access to many of Dallas' attractions.

Examples of what Dallas has in store for Annual Session visitors are many; for a complete list, see the Annual Session Advance program. But, to name just a few things . . . seven theater centers, including the world-famous Kalita Humphreys Theater, designed by Frank Lloyd Wright; three dinner theaters; scores of fine restaurants; numerous public nightclubs with name entertainment; museums and permanent exhibits; recreational facilities such as Six Flags over Texas, Lion Country Safari, Seven Seas; sports events such as

Texas Ranger baseball games; the Dallas Market Center; Texas stadium, the $25 million home of the Dallas Cowboys; and of course, numerous hospitals and medical centers. They include The University of Texas Southwestern Medical School at Dallas, Baylor University Medical Center, Methodist Hospital, Presbyterian Hospital, St. Paul Hospital, Parkland Memorial Hospital, Children's Medical Center, Veterans Administration Hospital, Texas Scottish Rite Hospital for Crippled Children, and many other medical and research facilities.

So many things will be happening at this year's Dallas Annual Session, that the motto of the many physicians planning to attend should be "Be Prepared." Be prepared for gaining new knowledge, meeting old friends, making new friends, participating in sports events, dancing, dining, sightseeing—well, you name it, and it's quite probable that you'll find it in Dallas at the TMA Annual Session. See you there!

Things to do and see in Dallas

Theaters

Dallas Theater Center (housing the Kalita Humphreys Theater), 3636 Turtle Creek. Tours available Mon.-Sat.

Theater Three, 2800 Routh in the Quadrangle.

The Barn Dinner Theater, 12205 Colt Road, dinner, music, plays.

Country Dinner Playhouse, 11829 Abrams Road at LBJ Fwy., theater in the round.

Windmill Dinner Theater, 4711 Keller Springs Road.

Permanent Exhibits and attractions

John F. Kennedy Memorial Plaza, Main, Commerce, Record, and Market Streets.

Texas Stadium, Highway 183 in Irving, $25 million home of the Dallas Cowboys; tours may be arranged.

Dallas-Fort Worth Regional Airport, Highway 183 West, Tours available on Sundays.

State Fair Park, 2 miles east of downtown, Includes The Age of Steam, Aquarium, The Garden Center, Health and Science Museum and Planetarium, Museum of Natural History, Dallas Museum of Fine Arts, Texas Hall of State, Wax World, and Texas Sports Hall of Fame.

Amusements

Arlington Stadium, Dallas-Fort Worth Turnpike, Home of the Texas Rangers.

Lion Country Safari, Dallas-Fort Worth Turnpike, An open-space animal exhibit.

Six Flags Over Texas, Dallas-Fort Worth Turnpike, World-famous amusement park; open only on weekends until May 26.

Seven Seas, Dallas-Fort Worth Turnpike, Exhibits for each of the world's seven seas; open only on weekends through June.

The Chapman Collection, Grand Prairie, Auto museum; open daily.

Southwestern Historical Wax Museum, Dallas-Fort Worth Turnpike, More than 100 wax figures; also western frontier gun show.

Art

Dallas Public Library, 1954 Commerce, Will be showing "Black Experience in Prints," April 24-May 15.

Meadows Museum, Owen Arts Center, SMU campus, Permanent collection of Spanish painting from 15th century to present.

For more information on things to do and see in Dallas, consult the Annual Session Program and the *Visitors Guide to Dallas*, published by the Dallas Chamber of Commerce.

Medicine in literature

IN THE TMA LIBRARY

Chein, Isidore, Gerard, D. L., Lee, R. S., and Rosenfeld, Eva: *The Road to H, Narcotics, Delinquency, and Social Policy*, Basic Books, New York, 1964.

Cohen, Sidney: *The Beyond Within; the LSD Story*, Atheneum, New York, 1970.

Deaton, John G.: *Markets for the Medical Author*, Warren H. Green, Inc., 1971.

Duecker, C. W.: *Medical Aspects of Sport Diving*, A. S. Barnes, New York, 1970.

Eaton, R. G.: *Injuries of the Hand*, Charles C Thomas, Springfield, Ill., 1971.

Fajans, S. S., and Sussman, K. E., eds.: *Diabetes Mellitus: Diagnosis and Treatment*, vol. 3, American Diabetes Association, Inc., 1971.

Harms, Ernest, ed.: *Drug Addiction in Youth*, Pergamon Press, Oxford, G. B., 1965.

Hartmann, Ernest: *The Biology of Dreaming*, American Lecture Series, Thomas Books, Springfield, Mass., 1967.

Knutson, A. L.: *The Individual, Society, and Health Behavior*, Russell Sage Foundation, New York, 1965.

Kaye, Donald, ed.: *Urinary Tract Infection and Its Management*, C. V. Mosby, St. Louis, 1972.

Kellaway, Peter, and Petersen, Ingemar, eds.: *Clinical Electroencephalography of Children*, Grune & Stratton, New York, 1968.

Lindesmith, Alfred R.: *Addiction and Opiates*, Aldine, Chicago, 1968.

Littmann, David: *Textbook of Electrocardiography*, Harper & Row, New York, 1972.

Louria, D. B.: *Overcoming Drugs*, McGraw-Hill, New York, 1971.

Luria, A. R.: *Traumatic Aphasia, Its Syndromes, Psychology and Treatment*, Mouton, The Hague, Netherlands, 1970.

McDonald, Linda: *Baby's Recipe Book*, A. S. Barnes, Cranbury, N.J., 1972.

MacKeigan, Helaine, ed.: *American Library Directory, 1972 1973*, 28th ed., R. R. Bowker, Co., New York, 1972.

Markowitz, Milton, and Gordis, Leon: *Rheumatic Fever*, vol. 2 in *Major Problems in Clinical Pediatrics*, W. B. Saunders, Philadelphia, 1972.

Medical Examination Publishing Co.: *Medical Examination Review Book*, vol. 1, 3rd ed. Medical Examination Publishing Co., Flushing, N.Y., 1972.

National Conference on Methadone Treatment: *Proceedings*, National Association for the Prevention of Addiction to Narcotics, New York, 1972.

Page, I. H.: *Serotonin*, Year Book Medical Publishers, Chicago, 1968.

Roche Anniversary Symposium: *The Challenge of Life; Biomedical Progress and Human Values*, Birkhauser Verlag, Basel, Switzerland, 1972.

Rosenbaum, M. B., Elizari, M. V., and Lazzari, J. O.: *The Hemiblocks: New Concepts of Intraventricular Conduction Based on Human Anatomical, Physiological, and Clinical Studies*, Tampa Tracings, Tampa, Fla. 1970.

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* **Indication:** Based on a review of this drug by the National Academy of Sciences—National Research Council and/or other information, FDA has classified the indication as follows:
"Probably" effective: For the treatment of vulvovaginal candidiasis.
Final classification of the less-than-effective indications requires further investigation.

Contraindications: None known. **Precautions:** Cases of sensitization and irritation have been reported. When noted the drug should be discontinued. **Dosage:** One applicatorful intravaginally twice daily for a period of 14 days. Course of therapy may be repeated if necessary.

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Personals

A personal in the March issue of *Texas Medicine* concerning election of officers of the Central Texas Medical Foundation should have stated that physicians reelected as officers are **Drs. Grover Bynum, Terry Collier, Hardy Thompson,** and **Ronald Boren,** all of Austin. **Drs. James E. Peavy, Charles C. Sprague,** and **Vance Terrell** are not officers of the foundation.

Dr. Raymond H. Kaufman, Houston, has been named chairman of Baylor College of Medicine's Department of Obstetrics and Gynecology. He will occupy the Ernst William Bertner Chair in obstetrics and gynecology at Baylor and St. Luke's Episcopal Hospital, and will head the obstetric and gynecology services at the Methodist Hospital, Ben Taub General, and Jefferson Davis Hospitals. Dr. Kaufman has been acting chairman of the department since 1969.

Dr. Henry D. McIntosh, Houston, has been chosen president-elect of the 5,600 member American College of Cardiology. Dr. McIntosh is professor and chairman of the Department of Medicine at Baylor College of Medicine.

Dr. Carmault B. Jackson, San Antonio, and **Dr. William F. Lucas,** Dallas, have been named to serve on the American Medical Association's Task Force on Guidelines of Care for PSROs. Dr. Jackson is a member of TMA's Council on Tax-Financed Health Care Programs. Dr. Lucas is vice president and medical director of Blue Cross-Blue Shield of Texas.

Dr. Denton Cooley, professor of surgery at Baylor College of Medicine in Houston, has been named a member of the College of Electors of the Hall of Fame for Great Americans at New York University.

Three Texas physicians have been honored recently by the citizens of the towns in which they practice. **Dr. Fermin Calderon,** Del Rio, has been named "man of the year" by the San Felipe Lions Club, which cited him for the "outstanding job he did in his profession during the year."
In Cleburne, general surgeon **William R. Whitehead** was named the town's "outstanding citizen" by the Chamber of Commerce.
Meanwhile, **Dr. L. L. Travis,** Jacksonville, was honored at a dinner and was presented with a loving cup by the board of directors of Nan Travis Memorial Hospital. Dr. Travis was recognized "for a lifetime of work in the medical profession in Jacksonville."

The Texas Medical Association has learned that **Dr. Mario Ramirez,** Roma, a member of TMA's Committee on Health Care of the Poor, has been approached by Elliott Dozer, the producer of television's "Sesame Street," to accept a position on a health advisory committee being formed by Dozer. The apparent purpose of the committee would be to advise Dozer's organization in connection with the production of educational films on health for the poor. The committee met for the first time on March 23.

MEDICAL ARTS CLINIC of corsicana

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Questions / Answers

Editor's note: This month's Question and Answer section is a continuation of the discussion of Medicare and Medicaid charge profiles begun in the March issue of *Texas Medicine*. Drs. Doyle W. Ferguson* and William Fred Lucas of Blue Cross-Blue Shield of Texas are again the guest experts.

Q When a physician moves from one state to another, is a new profile begun, or is his profile from the other state used? What if he joins an established corporate practice in the new state?

A When a physician moves from one state to another, he has the prerogative of either asking that his old profile be brought from his previous location or asking that a new computed usual fee profile be developed based on the 50th percentile of the prevailing group charge array.

When the physician moves to another state to join an established corporate practice, the physician would assume the established profile of the group he joins. The established group should notify the Medicare intermediary of the addition of a new physician to their group.

Q When a patient comes into our office for an injection and we know that Medicare will only pay for a percent of our charge, can the office also charge for an office visit—either to RN or physician? Either way the charge would be the same—only broken down differently. Is this fair and equitable? Is the office visit an allowable charge? (Example: injection for $10, broken down into $5 office visit and $5 for injection.)

A The utilization of procedure codes should indicate that a procedure code is used to describe an actual service rendered to the patient. If the physician sees the patient, a charge may be submitted for an office visit, and if an injection is given to the patient, a charge may be submitted for that injection. The appropriate procedure code for the two charges should be included on the claim form. If the patient comes in routinely for the injection only and the charge for the injection is broken down as an office visit and injection in an attempt to get full payment for the injection, the reasonable charge profiles would be altered and invalid data would be included in the profile make-up for reimbursement to that physician for that injection.

Q With the updating system such as you describe, is it not to the physician's benefit to submit grossly elevated fees in order to receive a reasonable increase in future years?

A The reasonable charge profile system is based on the actual charges submitted by physicians. However, charges submitted to the Medicare and Medicaid programs should be consistent with charges submitted to all the physician's patients. If a physician submits grossly elevated fees, they will be eliminated from the profile as above tolerances and will not add to the history data.

Q Is a group of physicians treated as one profile or does each physician in the group develop his own profile (assuming they are all in the same type of practice or specialty)?

*Dr. Ferguson died April 6, 1973.

A Billings received by physicians in a group practice vary. In some groups, a common number is used, and if all the physicians are of a single specialty, the charges are accumulated for the group of physicians and their specialty. Under these circumstances, each physician in the group does not develop his individual profile; the profile is developed for the group setting.

In some groups of multi-specialty classifications, which are commonly designated as "clinics," a single profile may likewise be developed. However, in these circumstances, there is supposed to be a uniformity of charges by all physicians for any given service. Some of these clinic groups have sub-divided their multi-specialty groups into specialty groups. Under these circumstances, individual profiles are developed for the specialty groups.

In other cases, physicians practicing in groups retain their individual physician numbers and all charges are accumulated on the individual physician's number, developing profiles for each physician involved. One of the common difficulties in this area is that individual physicians may charge different amounts for the same service and develop different usual fees for identical services. This causes different payments for the same service due to the development of different usual fees.

When a patient sees two or more physicians of the same specialty and receives varying amounts as a reasonable charge allowance, it becomes confusing to the patient. Therefore, many physician groups prefer the common clinic number or the individual specialty group number.

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RAYMOND G. BOSTER
San Angelo 1915-1972

F. POLK FRY, JR.
Mineral Wells 1909-1972

TOM R. JONES
Houston 1913-1973

CARL A. KUNATH
San Angelo 1906-1972

CLARENCE F. OSBORNE
Pasadena 1900-1973

CORNELIUS PUGSLEY
Houston 1898-1972

ARNOLD WILSON
Pasadena 1905-1972

WATT W. WINN
Dallas 1896-1972

IN MEMORIAM

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The Library ranks as one of the finest in the nation. It is providing more than 10,000 reference requests, 3,500 tapes and cassettes, and 2,500 films each year to physicians, students, and to those seeking information related to medicine and health care. The resources of the Library include 60,000 volumes, 400 tapes, and 300 scientific and lay films; more than 1,300 professional journals are received monthly. Services are provided without charge.

Contributions to the Texas Medical Memorial Library Fund are invested in a permanent fund and are managed by the Board of Trustees of the Texas Medical Association. Dividends are used to purchase new books and to operate the Library.

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Recent deaths

Dr. A. Wilson

Retired general surgeon Dr. Arnold Wilson, 67, died Nov. 14, 1972, at Southmore Hospital in Pasadena. Dr. Wilson had practiced medicine in Pasadena since 1946.

Born in Quinton, Ala., he had attended Birmingham Southern College in Birmingham, Ala., where he received a BS degree in 1928. He began his medical studies at the University of Alabama in Tuscaloosa in 1929, and graduated from Rush Medical College in Chicago in 1932 with an MD degree. From 1932 to 1933, Dr. Wilson served an internship at Hillman Hospital in Birmingham, remaining there to serve residencies in obstetrics and gynecology, internal medicine, and pathology. Upon completion of his residencies in 1936, the physician began serving on the staff of Grace Hospital in Welch, W. Va., where he remained until 1941, when he began serving with the US Army. In 1946, Dr. Wilson completed his military obligations, and moved to Pasadena.

At the time of his death, Dr. Wilson held memberships in Harris County Medical Society, Texas Medical Association, and American Medical Association. He was a Mason, and a member of Phi Beta Pi medical fraternity and Theta Chi social fraternity.

Surviving the physician are his wife, Helen Paynter Wilson; three sons, James A. Wilson, Houston, Thomas E. Wilson, Pasadena, and Jack G. Wilson, Austin; his sister, Mrs. Hazel Tanner, Birmingham; and five grandchildren.

Dr. C. A. Kunath

Dr. Carl A. Kunath, surgeon in San Angelo for more than 34 years, died on Nov. 21, 1972, while vacationing in Madrid, Spain.

The 66-year-old physician was associated with St. John's Hospital, Shannon West Texas Memorial Hospital, and San Angelo Medical and Surgical Clinic in San Angelo. He began practicing in San Angelo in 1938, serving as chief surgeon at San Angelo Medical and Surgical Clinic. He was born in Washington, Iowa, and attended Grinnell College in Grinnell, Iowa.

After receiving an AB degree in 1928, Dr. Kunath entered Harvard Medical School in Boston, graduating with an MD degree in 1932. He interned at Cincinnati General Hospital in Cincinnati, and served a residency at University of Iowa Hospitals in Iowa City, Iowa.

From 1942 to 1946, Dr. Kunath served with the US Army Medical Corps, attaining the rank of Major.

Certified by the American Board of Surgery, the physician was a member of Tom Green Eight Counties Medical Society, Texas Medical Association, Southern Medical Association, American Medical Association, Texas Surgical Society, Southwestern Surgical Congress, American College of Surgeons, and American Association of Railway Surgeons.

Dr. Kunath is survived by his wife, Elizabeth Conner Kunath; his son, Carl E. Kunath of San Angelo; and his sister, Mrs. Evaleene Kruger of Mission.

Dr. Wilson

Dr. Kunath

Dr. Jones

Dr. T. R. Jones

Dr. Tom R. Jones, Houston physician specializing in diseases of the chest, died Jan. 3, 1973, of leukemia. He was 59.

A former resident of Belton, and a native of Salado, Dr. Jones had resided in Houston since 1931. He graduated from Rice University in 1935 and began his medical studies at The University of Texas Medical Branch at Galveston, receiving his MD degree in 1938. From 1938 to 1939, Dr. Jones served an internship at Houston's Hermann Hospital, followed by a residency at McKnight Tuberculosis Hospital in San Angelo (1939-1941), and at Houston Tuberculosis Hospital (1941-1945). He established his practice in Houston in 1945.

Dr. Jones was certified by the American College of Chest Physicians, and had done research work at Jefferson Davis Hospital in Houston. He had authored articles on air embolism and bronchitis. A member of Harris County Medical Society, Texas Medical Association, American Medical Association, Texas Thoracic Society, American Thoracic Society, Houston Society of Internal Medicine, American Association of Physicians and Surgeons, and Houston Chapter of the American Heart Association, Dr. Jones had served as an examiner for the Selective Service induction offices in Houston. He was a past president of the Texas Tuberculosis Association and a clinical instructor at Baylor College of Medicine. Honor society memberships included Alpha Omega Alpha and American Trudeau Society.

Surviving Dr. Jones are his wife, Carla Russell Jones; and a sister, Mary Jones of Houston.

Dr. C. F. Osborne

Dr. Clarence Fred Osborne, 72, of Pasadena, died Jan. 5, 1973. He had practiced in Pasadena since 1937.

Born in Brandon, Tex., Dr. Osborne attended The University of Texas at Austin and The University of Texas Medical Branch at Galveston. He graduated from medical school in 1924, and began serving an internship at Providence Hospital in Waco. In 1925 and 1926, he was a resident at Hillcrest Baptist Hospital in Waco.

Dr. Osborne began practicing in Albany, Tex., in 1926. He had also practiced at Gladewater, Tex. (1931-1933), and at Raymondville, Tex. (1933-1936). In his early years of practice, Dr. Osborne specialized in x-ray and physiotherapy, but he had been practicing general medicine for many years at the time of his death.

The physician held memberships in Harris County Medical Society, Texas Medical Association, and American Medical Association.

Survivors are his wife, Edna Selden Oborne; a son, John S. Osborne of Pasadena; three sisters, Mrs. Mavalyn Giles of Kerrville, Mrs. Alyne Randall and Mrs. Ruth Pierce, both of Pasadena; and four grandchildren.

Dr. W. W. Winn

Heart disease claimed the life of Dr. Watt W. Winn on Dec. 21, 1972. Dr. Winn specialized in obstetrics and gynecology, and had practiced in Dallas since 1931. He was 76.

A native of Dallas, Dr. Winn attended Southern Methodist University and Baylor College of Medicine (then located at Dallas). He received his MD degree in 1927 and remained in Dallas to serve an internship and residency at Baylor University Medical Center. In 1931, Dr. Winn served a 6-month internship at Chicago's Lying-In Hospital.

A veteran of World War I, the physician had served with the US Navy in the Atlantic theatre from 1917 to 1919.

At the time of his death, Dr. Winn was a member of Dallas County Medical Society, Dallas Southern Clinical Society, Texas Medical Association, Texas Association of Obstetricians and Gynecologists, American Medical Association, and American College of Obstetricians and Gynecologists. He had been on the staffs of Baylor University Medical Center and Parkland Memorial Hospital, and was a clinical assistant professor of obstetrics and gynecology at UT Southwestern Medical School. Also, Dr. Winn belonged to Park Cities Rotary Club, Rotary International, Phi Beta Pi medical fraternity, Alpha Tau Omega social fraternity and Dallas Athletic Club.

He is survived by his wife, Bobbie Lindsey Winn; a son, Watt W. Winn, Jr., of Dallas; and a brother, William E. Winn of Houston.

Dr. C. Pugsley

Surgeon and gynecologist in Houston since 1926, Dr. Cornelius Pugsley, Jr., died Nov. 9, 1972, in a Houston hospital. The retired physician had been on the staff of Hermann Hospital for 45 years, serving as chief of staff and head of the gynecology department. He also was an associate professor of gynecology at Baylor College of Medicine.

A 1924 graduate of The University of Texas Medical Branch at Galveston, Dr. Pugsley was born in Eldorado Springs, Mo. Before entering medical school, he had attended Southern Methodist University in Dallas. After receiving his MD degree, Dr. Pugsley served an internship at Kansas City General Hospital in Kansas City, Mo.

A veteran of World Wars I and II, the 74-year-old physician was a past president of Postgraduate Medical Assembly of South Texas. He was a fellow of American College of Surgeons, and held memberships in Harris County Medical Society, Texas Medical Association, Texas Surgical Society, American Medical Association, Texas Association of Obstetricians and Gynecologists, and Central Association of Obstetricians and Gynecologists. He also belonged to Alpha Kappa Kappa medical fraternity.

Surviving Dr. Pugsley are his wife, Jessie Rhode Pugsley; and his sister, Mrs. Ellen Schell of Seabrook, Tex.

Dr. Winn

Dr. Boster

Dr. R. G. Boster

San Angelo physician Dr. Raymond G. Boster, Jr., died Dec. 10, 1972, in Shannon West Texas Memorial Hospital, San Angelo. Dr. Boster specialized in internal medicine and had practiced in San Angelo since 1952.

A 1945 graduate of UT Medical Branch at Galveston, Dr. Boster was born in Centralia, Ill. He attended the University of Illinois at Urbana and The University of Texas at Austin before entering medical school. In 1945, Dr. Boster began serving an internship at Minneapolis General Hospital. He served a residency at the State Tuberculosis Sanatorium in Carlsbad, Tex., from 1946 to 1947, and at Veterans Administration Hospital in McKinney, Tex., from 1947 to 1952. While at VA Hospital, he served as assistant chief of internal medicine.

The board-certified internist was a member of Tom Green Eight County Medical Society, Texas Medical Association, American Medical Association, American Trudeau Society, and American College of Physicians. Dr. Boster also belonged to Alpha Omega Alpha honor medical society.

Surviving the physician are his wife, Reta Sue Ballinger Boster; two sons, Michael H. Boster of Austin and Stephen R. Boster of Dallas; and a daughter, Barbara Elaine of San Angelo.

Dr. F. P. Fry

Family physician in Mineral Wells since 1971, Dr. Francis Polk Fry, Jr., died Dec. 24, 1972, of cardiovascular accident.

The 63-year-old physician was born in Frederick, Okla. He attended the University of Oklahoma at Norman and the University of Oklahoma School of Medicine at Oklahoma City. Upon graduating in 1936 with an MD degree, Dr. Fry began serving an internship at French Hospital in San Francisco. In 1937 and 1938, he served a residency in medicine and surgery at San Mateo (Calif.) County General Hospital. Dr. Fry did postgraduate work in 1941 at the School of Aviation Medicine, Randolph AFB, Tex.

Dr. Fry returned to Frederick in 1938 to practice medicine. After practicing there for two years, he began serving with the US Air Force. He returned to Frederick in 1946, remaining there until he moved to Mineral Wells.

A member of Palo Pinto County Medical Society, Texas Medical Association, American Medical Association, and American Academy of Family Physicians, Dr. Fry also belonged to Phi Beta Pi medical fraternity.

He is survived by his wife, Dorothy Elna Sims Fry; two daughters, Mrs. Donna Payton Sherman, Frederick, Okla., and Miss Susie Fry, Dallas; and two sons, Keith Fry of Wienert, Tex., and Dr. Kirk Fry, Oklahoma City, Okla.

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Precautions: Ideally, supportive therapy is indicated for anemic, dehydrated, or malnourished patients prior to initiation of anthelmintic therapy. In presence of hepatic or renal dysfunction, patients should be carefully monitored.
Adverse Reactions: Most frequently encountered are anorexia, nausea, vomiting, and dizziness. Less frequently, diarrhea, epigastric distress, pruritus, weariness, drowsiness, giddiness, and headache have occurred. Rarely, tinnitus, hyperirritability, numbness, abnormal sensation in eyes, blurring of vision, xanthopsia; hypotension, collapse; enuresis; transient rise in cephalin flocculation and SGOT; perianal rash, cholestasis and parenchymal liver damage; hyperglycemia; transient leukopenia; malodor of the urine, crystalluria, hematuria; appearance of live Ascaris in the mouth and nose. Hypersensitivity reactions

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addendum

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MINTEZOL should be given after meals if possible. Dietary restriction, complementary medications, and cleansing enemas are not needed.
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Weight-dose chart:

WEIGHT (lb)	EACH DOSE (g)	TABLETS
25	0.25	½
50	0.5	1
75	0.75	1½
100	1.0	2
125	1.25	2½
150 & over	1.5	3

The regimen for each indication follows:

INDICATION	REGIMEN	COMMENTS
Pinworm disease	Two doses per day for 1 day. Repeat in 7 days. This regimen is designed to reduce the risk of reinfection.	If this is not practical, give 2 doses per day for 2 successive days.
Threadworm,* large roundworm,* hookworm,* and whipworm* disease	Two doses per day for 2 successive days.	A single dose of 20 mg/lb or 50 mg/kg may be employed as an alternative schedule, but a higher incidence of side effects should be expected.
Creeping eruption	Two doses per day for 2 successive days.	If active lesions are still present 2 days after completion of therapy, a second course is recommended.
Symptoms of trichinosis* during the invasive phase of the disease	Two doses per day for 2 to 4 successive days according to the response of the patient.	The optimal dosage for the treatment of trichinosis has not been established.

*Clinical experience with thiabendazole for treatment of each of these conditions in children weighing less than 30 lb has been limited.

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*INDICATIONS. Based on a review of this drug by the National Academy of Sciences-National Research Council and/or other information, FDA has classified the indications as follows:

Effective: Management of nausea and vomiting and dizziness associated with motion sickness.

Possibly Effective: Management of vertigo associated with diseases affecting the vestibular system.

Final classification of the less than effective indications requires further investigation.

CONTRAINDICATIONS. Administration of Antivert during pregnancy or to women who may become pregnant is contraindicated in view of the teratogenic effect of the drug in rats.

The administration of meclizine to pregnant rats during the 12th-15th day of gestation has produced cleft palate in the offspring. Limited studies using doses of over 100 mg./kg./day in rabbits and 10 mg./kg./day in pigs and monkeys did not show cleft palate. Congeners of meclizine have caused cleft palate in species other than the rat.

Meclizine HCl is contraindicated in individuals who have shown a previous hypersensitivity to it.

WARNINGS. Since drowsiness may, on occasion, occur with use of this drug, patients should be warned of this possibility and cautioned against driving a car or operating dangerous machinery.

Usage in Children: Clinical studies establishing safety and effectiveness in children have not been done; therefore, usage is not recommended in the pediatric age group.

Usage in Pregnancy: See "Contraindications."

ADVERSE REACTIONS. Drowsiness, dry mouth and, on rare occasions, blurred vision have been reported.

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PROLOID® (thyroglobulin)
Caution: Federal law prohibits dispensing without prescription

Description. Proloid (thyroglobulin) is obtained from a purified extract of frozen hog thyroid. It contains the known calorigenically active components, Sodium Levothyroxine (T_4) and Sodium Liothyronine (T_3). Proloid (thyroglobulin) conforms to the primary USP specifications for desiccated thyroid—for iodine based on chemical assay—and is also biologically assayed and standardized in animals.

Chromatographic analysis to standardize the Sodium Levothyroxine and Sodium Liothyronine content of Proloid (thyroglobulin) is routinely employed.

The ratio of T_4 and T_3 in Proloid (thyroglobulin is approximately 2.5 to 1.

Proloid (thyroglobulin) is stable when stored at usual room temperature.

Indications. Proloid (thyroglobulin) is thyroid replacement therapy for conditions of inadequate endogenous thyroid production: e.g., cretinism and myxedema. Replacement therapy will be effective only in manifestations of hypothyroidism.

In simple (nontoxic) goiter, Proloid (thyroglobulin) may be tried therapeutically, in nonemergency situations, in an attempt to reduce the size of such goiters.

Contraindication. Thyroid preparations are contraindicated in the presence of uncorrected adrenal insufficiency.

Warnings. Thyroglobulin should not be used in the presence of cardiovascular disease unless thyroid-replacement therapy is clearly indicated. If the latter exists, low doses should be instituted beginning at 0.5 to 1.0 grain (32 to 64 mg) and increased by the same amount in increments at two-week intervals. This demands careful clinical judgment.

Morphologic hypogonadism and nephroses should be ruled out before the drug is administered. If hypopituitarism is present, the adrenal deficiency must be corrected prior to starting the drug.

Myxedematous patients are very sensitive to thyroid and dosage should be started at a very low level and increased gradually.

Precaution. As with all thyroid preparations this drug will alter results of thyroid function tests.

Adverse Reactions. Overdosage or too rapid increase in dosage may result in signs and symptoms of hyperthyroidism, such as menstrual irregularities, nervousness, cardiac arrhythmias, and angina pectoris.

Dosage and Administration. Optimal dosage is usually determined by the patient's clinical response. Confirmatory tests include BMR, T_3 ^{131}I resin sponge uptake, T_3 ^{131}I red cell uptake, Thyro Binding Index (TBI), and Achilles Tendon Reflex Test. Clinical experience has shown that a normal PBI (3.5-8 mcg/100 ml) will be obtained in patients made clinically euthyroid when the content of T_4 and T_3 is adequate. Dosage should be started in small amounts and increased gradually with increments at intervals of one to two weeks. Usual maintenance dose is 0.5 to 3.0 grains (32 to 190 mg) daily.

Overdosage Symptoms. Headache, instability, nervousness, sweating, tachycardia, with unusual bowel motility. Angina pectoris or congestive heart failure may be induced or aggravated. Shock may develop. Massive overdosage may result in symptoms resembling thyroid storm. Chronic excessive dosage will produce the signs and symptoms of hyperthyroidism.

(Treatment: In shock, supportive measures should be utilized. Treatment of unrecognized adrenal insufficiency should be considered.)

How Supplied. ¼ grain; ½ grain; scored 1 grain; 1½ grain; scored 2 grain; 3 grain; and scored 5 grain tablets, in bottles of 100 and 1000.

Full information available on request.

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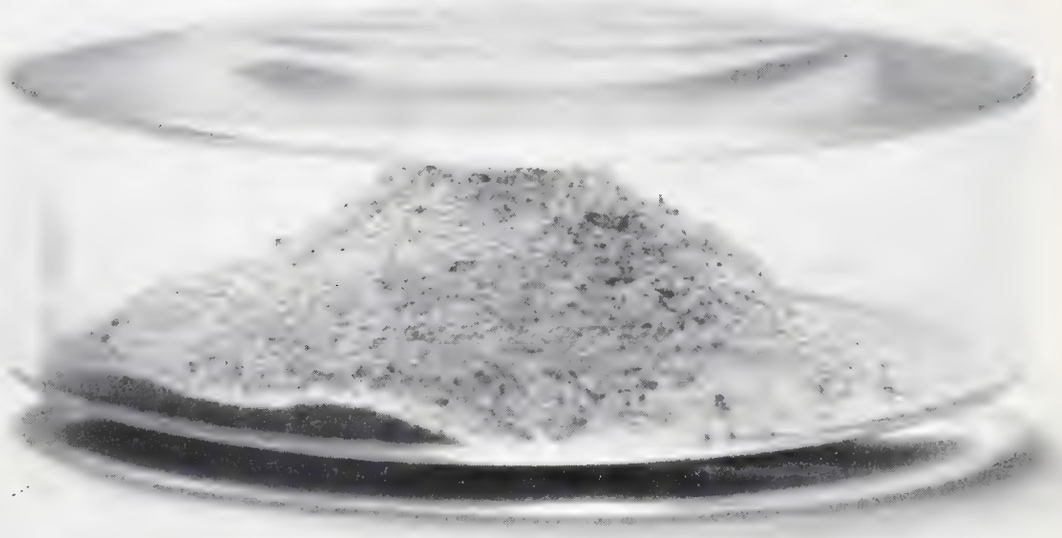

Unlike U.S.P. desiccated thyroid, Proloid® (thyroglobulin) offers the assurance of constant potency.

To begin with, Proloid is uniquely purified. The thyroglobulin extracted from hog thyroid is devoid of any glandular debris.

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What's on your patient's face...
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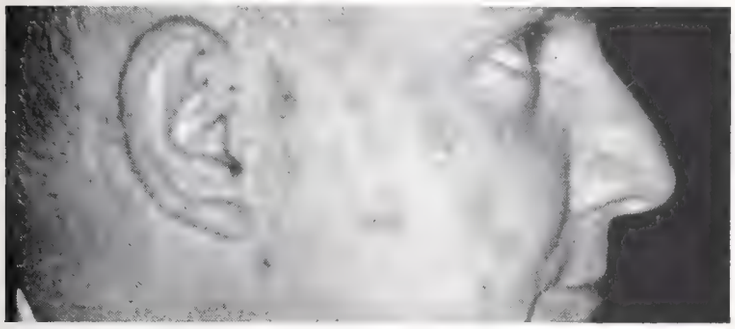
The lesions on his face may be solar/actinic — so-called "senile" keratoses...and they may be premalignant.

Solar, actinic or senile keratoses

These lesions may be called by several names, but they usually can be identified by the following characteristics: the typical lesion is flat or slightly elevated, of a brownish or reddish color, papular, dry, rough, adherent, and sharply defined. They commonly occur as multiple lesions, chiefly on the exposed portions of the skin.



Patient P.T. seen on 3/29/67 shows typical lesions of moderately severe keratoses. Note residual scarring on ridge of nose from previous cryosurgical and electrosurgical procedures.*

Sequence of therapy/ selectivity of response

After several days of therapy with Efudex® (fluorouracil), erythema may begin to appear in the area of the lesions; the reaction usually reaches its height of unsightliness and discomfort within two weeks, declining after discontinuation of therapy. This reaction occurs in affected areas. Since the response is so predictable, lesions that do not respond should be biopsied.

Acceptable results

Treatment with Efudex provides highly favorable cosmetic results. Incidence of scarring is low. This is particularly important with multiple facial lesions. Efudex should be applied with care near the eyes, nose and mouth.

Patient P.T. seen on 6/12/67, seven weeks after discontinuation of 5%-FU cream. Reaction has subsided. Residual scarring not seen except for that due to prior surgery. Inflammation has cleared and face is clear of keratotic lesions.*

*Data on file, Hoffmann-La Roche Inc., Nutley, N.J.

Before prescribing, please consult complete product information, a summary of which follows:

Indications: Multiple actinic or solar keratoses.

Contraindications: Patients with known hypersensitivity to any of its components.

Warnings: If occlusive dressing used, may increase inflammatory reactions in adjacent normal skin. Avoid prolonged exposure to ultraviolet rays. Safe use in pregnancy not established.

Precautions: If applied with fingers, wash hands immediately. Apply with care near eyes, nose and mouth. Lesions failing to respond or recurring should be biopsied.

Adverse Reactions: Local—pain, pruritus, hyperpigmentation and burning at application site most frequent; also dermatitis, scarring, soreness and tenderness. Also reported—insomnia, stomatitis, suppuration, scaling, swelling, irritability, medicinal taste, photosensitivity, lacrimation, leukocytosis, thrombocytopenia, toxic granulation and eosinophilia.

Dosage and Administration: Apply sufficient quantity to cover lesion twice daily with nonmetal applicator or suitable glove. Usual duration of therapy is 2 to 4 weeks.

How Supplied: Solution, 10-ml drop dispensers—containing 2% or 5% fluorouracil on a weight/weight basis, compounded with propylene glycol, tris(hydroxymethyl)aminomethane, hydroxypropyl cellulose, parabens (methyl and propyl) and disodium edetate.

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This patient's lesions were resolved with

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Mark your calendar now for these important Texas Medical Association meetings:

* 106th Annual Session
  May 3-6, 1973, Dallas
* Conference on Medical Practice
  Oct. 6, 1973, Austin
* Conference on Legislation
  Jan. 19, 1974, Austin

Watch for program details in TEXAS MEDICINE

Classified Advertising

Physicians Wanted

ORTHOPEDIC SURGEON AND TWO GP's needed by 19 doctor group, 100-bed fully accredited hospital. Salary open. Full partnership in one year. For additional details, write John B. Chester, M.D., 3330 South Lancaster Road, Dallas, Texas 75216.

UROLOGIST, board certified or eligible, to associate with a progressive and expanding multispecialty group in West Texas. Many fringe benefits including retirement program. No investment required. Adjoining accredited hospital. City population 35,000. Contact Ad-236, *Texas Medicine*, 1801 North Lamar Blvd., Austin, Texas 78701.

INTERNIST AND GENERAL PRACTITIONER WANTED by a five man group in a 10,000 population county seat town in Central Texas. The location is one hour from Dallas and Fort Worth, 30 minutes from Waco, and 20 minutes from Lake Whitney Dam. The clinic is located in the same building with a 50-bed, fully accredited hospital. The doctors have no hospital financial responsibility. Will start the right man at $30,000 salary for first year and full partnership after one or two years. It will be necessary to do some obstetrics. Please reply to Ad-301, *Texas Medicine*, 1801 North Lamar Blvd., Austin, Texas 78701.

WELL ESTABLISHED 32-man multispecialty group in Dallas, Texas, needs an ob/gyn, internal medicine, general surgeon, orthopedist, and otolaryngologist. Early partnership, liberal vacation and meeting time, life insurance, group hospitalization, retirement benefits, teaching opportunities, new facilities, interview expenses paid. Please contact Cecil Rosamond, Administrator, P. O. Box 28, Dallas, Texas.

DESIRE GP, SURGEON OR EENT. 16,000 population, rural area. Industry and ranching. Near metropolitan area. Good school system. Need association. Cleburne, Texas. For additional information contact Ad-363, *Texas Medicine*, 1801 North Lamar Blvd., Austin, Texas 78701.

ATTENTION PILOT PHYSICIANS: Combine emergency room work with flying. Group maintains Bonanza for business and pleasure. Please reply to Ad-365, *Texas Medicine*, 1801 North Lamar Blvd., Austin, Texas 78701.

GENERAL PRACTICE, FAMILY PRACTICE with three other family practitioners. Clinic, 40-bed hospital, 44-bed extended care, pharmacy. No capital outlay, no buy-in, equal privileges, guaranteed income until established. Top opportunity in Southwest. Contact Gordon Russell, Administrator, Hi-Plains Hospital-Clinic, 203 West 4th, Hale Center, Texas 79041.

FAMILY PRACTICE PHYSICIAN AND INTERNIST needed to join a full time five man clinic association with part time radiologist and clinical pathologist in Clifton, Texas. Located 35 miles NW of Waco, 15 miles from Lake Whitney; good fishing, excellent hunting, new, recently completed, modern golf course. Excellent schools, churches and growing progressive small town. Closely associated with new 65-bed hospital facility, which is fully accredited by the Joint Commission. Suggest salary at first with partnership in future. Financial terms open. Please contact V. D. Goodall, M.D., Clifton Medical and Surgical Clinic Association, Clifton, Texas 76634. Telephone 675-8621 or 675-3113.

GENERAL PRACTITIONER: Excellent location in the Lost Pines of Texas area. Growing community of 3,500 along the beautiful Colorado river has an excellent opportunity for a good family general practitioner. Excellent small hospital (25 beds) and nursing home (62 beds) complex. Guaranteed salary, clinic environment and other fringe benefits will make this difficult to turn down if interested in working in a progressive rural community. Write Ad-386, *Texas Medicine*, 1801 North Lamar Boulevard, Austin, Texas 78701.

PSYCHIATRIC RESIDENCY in approved 3-year program. Effective connections with universities, medical schools, private clinics, and community centers. Outstanding faculty and programs. Stipends with Texas license are $13,000, $14,000, and $15,000 per year. In addition, now offering residency in child psychiatry. For full information write to Anthony P. Rousos, M.D., Director of Training and Research, Austin State Hospital, 4110 Guadalupe Street, Austin, Texas 78751.

WANTED: GENERAL PRACTITIONER OR INTERNIST on staff of San Angelo Center. This is an institution for the moderately mentally retarded of the state. Salaries are quite competitive with other state and federal institutions. 40 hour work week, ample vacation time, and other fringe benefits. Excellent community to live near San Angelo, Texas. Contact Medical Director, San Angelo Center, Carlsbad, Texas 76934.

GP WANTED TO ASSOCIATE with well established GP in town of 25,000, 75 miles north of Dallas. Good schools and churches, close to Lake Texoma. Privileges in all three hospitals according to qualifications. Salary open. Write or call W. S. Fry, M.D., 2301 South Austin Avenue, Denison, Texas 75020.

FP OR IM TO JOIN THREE MAN GROUP (all ABFP). Investigate facilities, compatability, economics and environment personally with wife and family. Community Health Center, P.O. Box 672, Trinity, Texas. 713-594-3595 for Barnes, Colwell or Jones.

EMERGENCY DEPARTMENT PHYSICIAN IN TEXAS: Average earnings $45,000 with guarantee. Full department status. Maintain free practice of medicine. Work for patient on fee-for-service basis. Call 1-512-653-8221. Apply to Ad-417, *Texas Medicine*, 1801 North Lamar Blvd., Austin, 78701.

$30,000-$48,000 minimum collections guaranteed first year, payable monthly. Not an employment agency. General family practices in Hillsboro and in Houston and Dallas suburbs. Good schools and professionally satisfying private practices, both solo and group. Minimum or no practice expense first year. Write with C.V. to Nat T. Winston, Jr., M.D., Vice President of Professional Relations, Hospital Affiliates, Inc., P.O. Box 9836, Houston, Texas 77015. 713/453-6324.

INTERNISTS—Professionally satisfying private practices, both associate and group in suburbs of Dallas and Houston. $3,000-$4,000 minimum monthly collections guaranteed with little or no practice expense first year. Not an employment agency. Write with C.V. to Nat T. Winston, Jr., M.D., Vice President of Professional Relations, Hospital Affiliates, Inc., P.O. Box 9836, Houston, Texas 77015. 713/453-6324.

OB/GYN PRIVATE PRACTICES, both solo and group, available in Hillsboro and in suburbs of Houston. $30,000 minimum collections guaranteed the first year, payable monthly. Not an employment agency. Professionally satisfying practices in warm climates with good schools for your children. Write with C.V. to Nat T. Winston, Jr., M.D., Vice President of Professional Relations, Hospital Affiliates, Inc., P.O. Box 9836, Houston, Texas 77015. 713/453-6324.

UNIVERSITY HEALTH PHYSICIAN NEEDED June 1, 1973 to join three other full-time medical doctors in a very active practice at Southern Methodist University Clinic & Hospital. Usual fringe benefits plus some extra time off during Christmas and Easter student holidays. Salary competitive. Equal opportunity employer. Contact James W. Wiegreffe, M.D., Director, SMU Clinic & Hospital, SMU Box 157, Dallas, Texas 75222. Phone 214/692-2141.

SMALL EAST TEXAS TOWN DESIRES GENERAL PRACTITIONER willing to work. We have the following to offer: large industrial payroll with new expansion program to increase plant 25%; can be in Toledo or Rayburn Lake in 15 minutes; new hospital district proposed; 60-bed nursing home to be built. Office space available. Support of community assured. Please reply to Ad-435, *Texas Medicine*, 1801 North Lamar Blvd., Austin, Texas 78701.

WHAT WE NEED, MONEY CAN'T BUY—we need you. GP/S/OB with anesthesiologist thrown in for smalltown practice, solo or duet. Two GPs in town ready to welcome you. Hospital in town, two nursing homes. Friendly life-style, career opportunity galore, work to suit your taste. No moon and stars, but you'll like what we have. Llano, Texas. Contact H. A. Raesener, Jr., AC915/247-5040 for particulars.

WANTED: FAMILY PRACTICE PHYSICIANS, INTERNISTS and other specialists. Urgently needed in rapidly growing city in East Texas. Outstanding recreation area with excellent hunting and the best fresh water fishing in the entire South. Abundant lakes and hunting area in the entire area. Please contact William B. Shelton, Jr., M.D., President, Angelina County Medical Society, Lufkin, Texas 75901.

GENERAL PRACTITIONER AND INTERNIST. Newly constructed, multi-specialty, 6 man clinic in West Texas city of 180,000. New 120 bed hospital adjacent to clinic. Top salary with partnership opportunity in two years. Interested applicants send curriculum vitae to Ad-438, *Texas Medicine*, 1801 North Lamar Blvd., Austin, Texas 78701.

FAMILY PRACTICE PHYSICIAN NEEDED to join a three man group doing general practice. New community hospital and new clinic building under construction now, modern golf course, large lake, excellent hunting, excellent schools with no busing and no integration problems. 90 minutes from Dallas-Fort Worth. No investment necessary. Salary first year negotiable, with partnership after one or two years if desired. Contact K. J. Wharram, M. D. or A. D. Major, M.D., Nocona, Texas 76255. AC 817-825-3371.

FAMILY PRACTICE, with two other physicians. 50 bed hospital adjacent to clinic. Two nursing homes located in town. Large patient drawing area, good fishing, hunting, 8 miles to Lake Whitney, excellent schools, churches, and progressive small town. Guaranteed salary until established, partnership available in future. Contact Morris R. Hill, M. D. or James G. Barton, M. D. at Barton & Hill Medical Association, P. O. Box 546, Whitney, Texas 76692; phone AC817-694-2221.

GENERAL PRACTICE—Family practice with two other practitioners. New 43 bed hospital. No investments, other benefits negotiable to your desires, equal privileges, excellent income assured. Contact M. H. Shankles, Administrator, Shamrock General Hospital, 1000 South Main, Shamrock, Texas 79079. Telephone AC806-256-2114.

RADIOLOGIST WANTED: To join one other radiologist in Central Texas town of 60,000 for one year only. Might serve as base for locating permanent position. Most major metropolitan areas of Texas within easy driving distance. Write Ad-439, *Texas Medicine*, 1801 North Lamar Blvd., Austin, Texas 78701.

GENERAL PRACTITIONER OR INTERNIST for part-time work (10 to 12 hours per week) in industrial preventive medical program with petroleum firm in Corpus Christi area. Remuneration: $10,000 to $12,000 per year. Reply to Charles S. Ryan, M.D., 1608 Walnut Street, Philadelphia, Pennsylvania 19103 or call AC215-985-1600, Ext. 3310.

EMERGENCY ROOM PHYSICIAN—To become member of a 3-man group furnishing full-time emergency room coverage for active, modern, well equipped 288 bed JCAH hospital in North Central Texas within two hours drive of metropolitan areas, fishing and hunting resorts. Regular hours, none of the usual problems that are experienced in private practice, plus attractive guarantee. For more information call AC817-723-6767.

PHYSICIANS WANTED: INTERNIST AND/OR CARDIOLOGIST. AUSTIN. Excellent private practice opportunity for one or two internists, at least one of which should have subspecialty interest in cardiovascular disease. For details, write Ad-442, *Texas Medicine*, 1801 North Lamar Blvd., Austin, Texas 78701.

PHYSICIANS 750 bed hospital with large medical, surgical, psychiatric services, is in need of general and some subspecialty internists, and psychiatrists, with or without certification. Located in small, medically oriented city, close to large metropolitan areas. Excellent consultation and facilities available. Possible site for medical school. Salary competitive, ample vacation and sick leave, and fringe benefits. Equal employment opportunity agency. Apply Chief of Staff, VA Center, Temple, Texas.

CLASSIFIED AD RATES & DATA: Classified Advertising sells for $8.00 per issue for 50 words or less, payable in advance. Ad numbers can be substituted for formal addresses upon request at no extra cost. Name and address of ad number listings can not be given out unless specific permission to do so has been given. The advertising office will not contact ad number holders except by mail. Copy deadline is the 20th of the month preceding publication. Send copy to Advertising Assistant, TEXAS MEDICINE, 1801 North Lamar Blvd., Austin, Texas 78701.

PHYSICIANS WANTED—GENERAL PRACTITIONER AND GENERAL SURGEON: Cameron is located in Central Texas, with a population of 6,500 and trade area of 35,000. There is available a fully equipped clinic and 71 bed hospital. Physician potential net income $20,000 to $60,000 per year. For additional information, contact F. L. Gregory, Business Manager, Newton Clinic, P.O. Box 202, Cameron, Texas 76520. Telephone AC817-697-6624 or 697-2915.

GENERAL PRACTITIONER to associate with active GP in Dallas suburb. Office attached to JCA hospital. 40-hour week, no OB, night or weekend calls. Annual gross $200,000 last 12 years. Guaranteed $2,500 per month or 50% of gross, whichever greater. Write P.O. Box 558, Mesquite, Texas 75149.

STAFF PHYSICIAN NEEDED FOR STATE HOSPITAL. Progressive 1,000 resident state institution. Eligibility for Texas licenses required. 40 hour work week, paid vacation, sick leave, holidays, good retirement plan, group insurance. Kerrville is known as a retirement center. Prefer mature physician over age 50. Please contact Luther W. Ross, M.D., Superintendent, Kerrville State Hospital, P.O. Box 1468, Kerrville, Texas 78028, or phone 512-257-3211.

ANESTHESIOLOGIST WANTED FOR WEST TEXAS TOWN of 65,000. Two anesthesiologists and one CRNA. No partnership required. Fee for service. No OB. New OR opening in June. Write Uca Frances Simms, M.D., 3107 Shell, Midland, Texas 79701, or call 697-1480 collect.

STAFF POSITION—HARLINGEN STATE CHEST HOSPITAL. Salary $25,500 plus excellent fringe benefits, 40 hour week. Enjoy the outstanding recreation and working conditions in the semi-tropical Rio Grande Valley. Inquire: Medical Superintendent, Harlingen State Chest Hospital, Harlingen, Texas 78550. Equal opportunity employer.

BOARD INTERNIST—PULMONARY DISEASES. Clinical director position. Excellent fringe benefits, 40 hour week. Enjoy the outstanding recreation and working conditions in the semi-tropical Rio Grande Valley. Inquire: Medical Superintendent, Harlingen State Chest Hospital, Harlingen, Texas 78550. Equal opportunity employer.

EXCELLENT CLINIC PRACTICE being vacated July 1973. New hospital, over 7,000 patient days last fiscal year; 44 bed nursing home across street. Clinic owned and equipped by hospital. Liberal clinic and financial arrangement. Immediate opportunity. For additional information contact Ad-448, *Texas Medicine*, 1801 North Lamar Blvd., Austin, Texas 78701.

DESIRE PHYSICIAN—GP to locate in central Texas town of 3000. Very stable economy (manufacturing, oil, farming). New 22 bed hospital to be completed August 1973. Office space set up for physician already available. Metropolitan areas within 40-50 miles. Recreational activities—hunting, fishing, water sports, golf, civic clubs, etc. Please reply to Ad-449, *Texas Medicine*, 1801 North Lamar Blvd., Austin, Texas 78701.

INDUSTRIAL STAFF PHYSICIAN—40 hour week, salary and fringe benefits competitive. Experience not required. Modern medical department in large petro-chemical plant working with another physician. Contact Medical Director, Union Carbide, Texas City, Texas 77590.

GENERAL PRACTITIONER: Excellent location in the "Playground of West Texas." Growing community next to E. V. Spence Lake. Excellent small hospital (20 bed, JCAH approved) and nursing home (32 bed) complex. For additional information contact J. E. Quisenberry, Jr., Box 27, Robert Lee, Texas 76945.

Situations Wanted

CERTIFIED SURGEON—GENERAL: Does hand and peripheral vascular. Age 34. Texas license. Desires to relocate in Texas with group, partnership or solo. Limited general practice if necessary. Available on short notice. Please reply to Ad-428, *Texas Medicine* 1801 North Lamar Blvd., Austin, Texas 78701.

GENERAL SURGEON, board eligible, FMG, wishes to relocate. Five years in practice with orthopedic and GYN surgery experience. Prefer solo. 5,000-25,000 town with good hospital. Good references. Available immediately. Have Texas license. Please reply to Ad-431, *Texas Medicine*, 1801 North Lamar Blvd., Austin, Texas 78701.

OPHTHALMOLOGIST SEEKING POSITION IN TEXAS. Diplomate American Board of Ophthalmology. Internship, Michael Reese Hospital, Chicago. Basic ophthalmology, Kresge Eye Institute, Detroit. Residency in ophthalmology, Tulane University, New Orleans. Texas State Board of Medical Examiners, No. D 8860 license 1-13-73. Please contact Ad-440, *Texas Medicine*, 1801 North Lamar Blvd., Austin Texas 78701.

SEEKING RELOCATION: 38 years old, family physician (general practitioner) desires to practice in Texas, in a group or as associate with a view, to another GP in a community of 50,000 or more. Available July 1973. Reason for moving, can't stand very cold winters. Please reply to Ad-447, *Texas Medicine*, 1801 North Lamar Blvd., Austin, Texas 78701.

OVERWORKED GP DESIRES TO RELOCATE—TEXAS GULF COAST. Seeking full partnership with GP and much time off. Present annual income—solo—$300,000. Interested only in partnership with a diligent worker who will carry own weight. Details worked out mutually. Please contact Ad-451, *Texas Medicine*, 1801 North Lamar Blvd., Austin, Texas 78701.

For Sale or For Rent

SOUTHEAST MEDICAL CENTER has customized suites available for immediate occupancy, 100 feet from Southeast Baptist Hospital. Ideal location in established quadrant of San Antonio where no medical specialists are offered. Only 17 minutes by freeway from downtown. Contact Manager, 4242 East Southcross, San Antonio 78222. Phone 222-2103.

FOR SALE OR FOR RENT. Making over $250,000. Due to retirement in six months, two doctors clinic for lease, rent or sale. No night calls, OB, or surgery. Regular hours. Privileges in local hospital. Congenial community. 90 miles from Houston, 20 miles from Beaumont. Please reply to Ad-409, *Texas Medicine*, 1801 North Lamar Blvd., Austin, Texas 78701.

MEDICAL OFFICE SPACE in modern "successful" established clinic building at Stella Link and North Braeswood. Large rooms. X-ray and laboratory. No parking problems. Near freeways. Excellent for pediatrician. OB/GYN and GP. 8525 Stella Link, Houston. AC713-664-4553.

FOR SALE: 3 rooms of medical equipment in excellent condition, ideal for someone just opening an office. Includes electric Ritter table, pediatric table with scale, Hamilton exam table with matching cabinet. Many assorted tables, pans, instruments, some laboratory equipment. 100 MA Profexray unit with dark room equipment. Contact Robert A. Lloyd, M.D., 1200 Ridgecrest, Denton, Texas 76201 or phone AC817-387-8182.

SOLO GENERAL PRACTICE of 42 years. $20,000 inventory purchase price. Eight completely furnished rooms. X-ray, ECG, laboratory, etc. Four examining tables. Average 40 patients daily. Greatest bargain ever offered. Pay as you like. R. J. Van Sickle, M.D., AAFD, 700 North Fourth Street, Longview, Texas 75601. Phone AC214/758-4416 or 753-4177.

GENERAL PRACTITIONER, INTERNIST, PEDIATRICIAN, or other specialist wanted for newly constructed professional building in booming southwest Houston. Proximity to hospitals and freeway system. Centrally located in major growth area. Custom designed suites are available for immediate occupancy. For information contact Don Berthelsen, 8811 Frankway, Houston, Texas. Telephone AC713-664-6664.

AVAILABLE—50,000 square feet in new building for professional offices. Best area in Austin, Texas. Contact M. James Moritz, 5511 Balcones, AC512, 454-6080.

FOR SALE: Four rooms of medical equipment in excellent condition. Includes Burdick Microtherm, Liebel Flarshiem Diathermy, Trutrac Traction Unit. Also a Ritter hydraulic table, 2 Allison examination tables with matching cabinets and stools. Assorted tables, cabinets, pans and instruments. Also a Picker 100/100 MA "R-1" $843 with foot operated control table. Like new waiting room furniture. Also three rooms of office furniture, including metal desks, chairs and filing cabinets. Contact Mrs. J. M. Burnett, 1223 East Terrell Avenue, Fort Worth, Texas 76104. Telephone 332-2793.

GENERAL PRACTITIONER, Spanish speaking preferred. Due to retirement of doctor after 25 years. Excellent location near long established pharmacy. Waiting room, office and treatment rooms partially furnished, with all utilities available. Reasonable lease. Write or call Mr. Loya, 1510 Quitman, Houston; telephone 1-713-227-4645.

OFFICE EQUIPMENT FOR SALE. Established practice of 41 years in a progressive East Texas city of 52,000, retiring. That part of practice you would acquire is gratis. Please reply to Ad-450, *Texas Medicine*, 1801 North Lamar Blvd., Austin, Texas 78701.

TAX SHELTER INVESTMENT. New Lake Travis, Lago Vista duplex. Lake view. Two bedrooms, two baths each side. Air conditioning, all electric kitchens with self clean ovens, fireplaces, drapes. Carport and boat storage. No exterior upkeep. Country Club, two 18 hole golf courses, marina, stables. Excellent restrictions. Easy private financing. Contact H. J. Felber, AC 713-464-9665, collect.

FOR LEASE OR FOR SALE: I would like to lease or sell my building in Granbury, Texas, within two blocks of the lake. It is twelve years old, with ample parking, and is well equipped for general practice. Hospital privileges should be available in the local Hood General Hospital. For information contact John G. Little, M.D., 310 West Bluff, Granbury, Texas 76048.

OUTSTANDING HOUSTON GENERAL PRACTICE—Established 20 years in desirable part of town. Gross $200,000 (no OB) with net well over 50%. Building with three other tenants including pharmacy available for sale. Practice selling price $38,000. Professional Practice Sales, 1215 Walker Avenue, Suite 1001, Houston 77002, 713-222-9112.

WEST TEXAS GENERAL PRACTICE—Excellent opportunity to mix country style life with city educational and cultural advantages. Practice does no surgery or fractures and no OB. Grossing $145,000 on 4½ day week. Selling price for practice and equipment $25,000. Professional Practice Sales, 1215 Walker Avenue, Suite 1001, Houston 77002, 713-222-9112.

FOR RENT: Waterfront beach house with beautiful view of Gulf. To fellow physicians at less than market rate. Freeport. Modern, air-conditioned, range, refrigerator, sleeps 8. Renter furnishes linens and food. Fishing, swimming, surfing, beachcombing, good restaurants nearby. $35/night or $210/week. Now taking summer reservations. Also reduced off-season rates available. Contact J. C. DeWitt, M.D., 109 Timberlane, Alvin, Texas 77511; telephone 713-585-2343.

SOLO GENERAL PRACTITIONER, well established, desires a replacement 5/1/73 in San Antonio, Texas. Office adjacent to 600-bed general hospital. Financial arrangements to be discussed. Please reply to Ad-434, *Texas Medicine*, 1801 North Lamar Blvd., Austin, Texas 78701.

Miscellaneous

PHYSICIAN'S ASSISTANT—Class "A" program graduate, specialty in family practice, desires position in greater Fort Worth-Dallas area with solo practitioner or small group. Available in September. Please reply to Ad-446, *Texas Medicine*, 1801 North Lamar Blvd., Austin, Texas 78701.

PRIVATE PRACTICE OPPORTUNITY

In one of the most desirable areas in the Texas Gulf Coast Area. Memorial City Professional Building, in the Memorial Drive-Spring Branch Area of Houston, Texas, has just completed a fifty-seven suite addition. The Professional Building now consists of one hundred twenty offices and is connected to a new two hundred bed general hospital.

Over two hundred thousand people reside within a six mile radius of the Professional Building. The physician to population ratio is excellent to produce a rewarding private practice in virtually every specialty. Family practice especially needed. Some hospital connected opportunities.

Write or call Howard E. Troutt, Executive Director, Memorial City Medical Center, 920 Frostwood Drive, Suite 283, Houston, Texas 77024, (713) 464-2711.

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ADVERTISING & BUSINESS OFFICES: Texas Medical Association, 1801 North Lamar Blvd., Austin 78701; Telephone 512-477-6704.

PRINTING OFFICES: Texas Medicine, c/o Stafford-Lowdon Company, 1114 West Daggett, Fort Worth 76104.

Editorials

IT'S YOUR TURN TO TALK

At the forthcoming annual session of the Texas Medical Association the House of Delegates will again consider and act upon numerous items and issues of both interest and importance to Texas physicians. The House will convene at 9 a.m., Thursday, May 3; reference committees will conduct hearings on Thursday afternoon; and the House will reconvene on Friday evening, Saturday morning (probably), and Saturday afternoon—all at the Dallas Statler-Hilton Hotel.

The real gut work of the TMA House of Delegates depends primarily upon reports from the various reference committees, all of which are presented to the House on Friday evening and/or Saturday morning for discussion, debate, and ultimate action. The actual hearings of reference committees, however, are on Thursday afternoon. Although only seated delegates are entitled to participate in the several House sessions, all TMA members are entitled (and are indeed urged and encouraged!) to appear before any of the reference committees and to present opinions and recommendations concerning items and issues under consideration. It is customary for delegates and alternate delegates to attend reference committee hearings, much valuable input being so contributed; but many TMA members apparently do not realize that their own individual input to reference committees is equally as valuable and is always warmly welcome.

Among current items and issues to be considered by reference committees and subsequently by the House of Delegates are:

Current Procedural Terminology

Continuing Education for Physicians

Emergency Medical Services

Health Manpower

Hospital Accreditation

Intern/Resident Status in TMA

Medicaid and Medicare

Medical Student Membership in TMA

Peer Review

Professional Standards Review Organization (PSRO)

Phase III Economic Guidelines

Texas Medical Foundation Bylaws

Future information concerning not only these items and issues but also others to come before the House can be obtained from any TMA delegate or alternate delegate, each of whom has been mailed a copy of the 1973 *Handbook for Delegates* and each of whom is charged with the responsibility of representing his local colleagues through the county medical society.

The House of Delegates would like nothing better than to be certain that it truly reflects the views of Texas physicians so that actions of the House will be endorsed throughout

the state. To accomplish this goal, however, requires that TMA members express themselves concerning pending House business. The channels for such expression are free and open; they merely await full utilization.

Jack B. Lee, MD, San Antonio,
Speaker, TMA House of Delegates.

DANGEROUS CROSSING AHEAD

There is need for the medical profession to take a broad view of ways in which medical care can be provided. It should take a lesson from the decline of the railroads in this country. The railroads equated transportation with *transportation by rail*. They opposed other forms, for example airplanes, trucks, buses, and, in a large measure have lost out to them.

The medical profession equates the delivery of health care to the practice of medicine on the traditional fee-for-service, solo practitioner basis, and gives little voice to discussion of all other arrangements. To avoid the error of railroads, medicine should embrace, guide, and develop alternates to the fee-for-service concept. The railroads might have avoided their present plight had they addressed themselves to providing transportation, not just rail transportation.

Medicine should be concerned with providing medical and health care, not just with fee-for-service and solo practice, or it too will find that others have taken the initiative and gained control.

There is a dangerous crossing ahead—and not far ahead—where the vehicle of organized medicine crosses the path of the public's interest in this matter. Let us beware of the danger and profit by the mistakes of others.

W. D. Seybold, MD, Houston.

LEGISLATORS NEED MD's VIEWS

Drug legislation, chiropractic coverage in private accident and health insurance; proposed changes in the membership of the Texas State Board of Health, and establishment of a "Health Facilities Council" are legislative matters of the utmost importance to Texas physicians.

The TMA Council on Medical Jurisprudence urgently requests that every physician inform himself of these pending measures, and express his opinions to his representatives in the Texas Legislature immediately.

Of greatest concern now are bills dealing with repeal of the antisubstitution law. SB 170, SB 371, and HB 546 are similar and provide for mandatory generic prescriptions, establishment of a Drug Formulary, and permit substitution of those generic drugs which are "therapeutically equivalent." TMA opposes these bills.

TMA also opposes HB 498 and SB 372, which would require that all drug "detail men" be pharmacologists or licensed pharmacists; and HB 756, which would require that pharmacists keep complete "patient profiles" on persons who want prescriptions filled, would allow the State Board of Pharmacy to set a fee for compiling the profile, and would be enforceable by $20 to $200 in fines for violation.

As for the Governor's "Controlled Substances Bills" (SB 212 and HB 447), the legal staff of TMA believes that these attempts to bring the Texas law in line with the Uniform and Federal Controlled Substances Act should be amended to conform with those acts in relation to registration, record keeping, and inspections.

The *TMA Legislative Bulletin* (1973-LB 2) mailed late in March to all TMA members, summarized several other proposed drug bills of special interest to physicians.

TMA opposes SB 277, which would require

that all accident and health insurance policies in Texas include the services of chiropractors. Consideration of the bill has been postponed until May 3. There is no companion bill in the House.

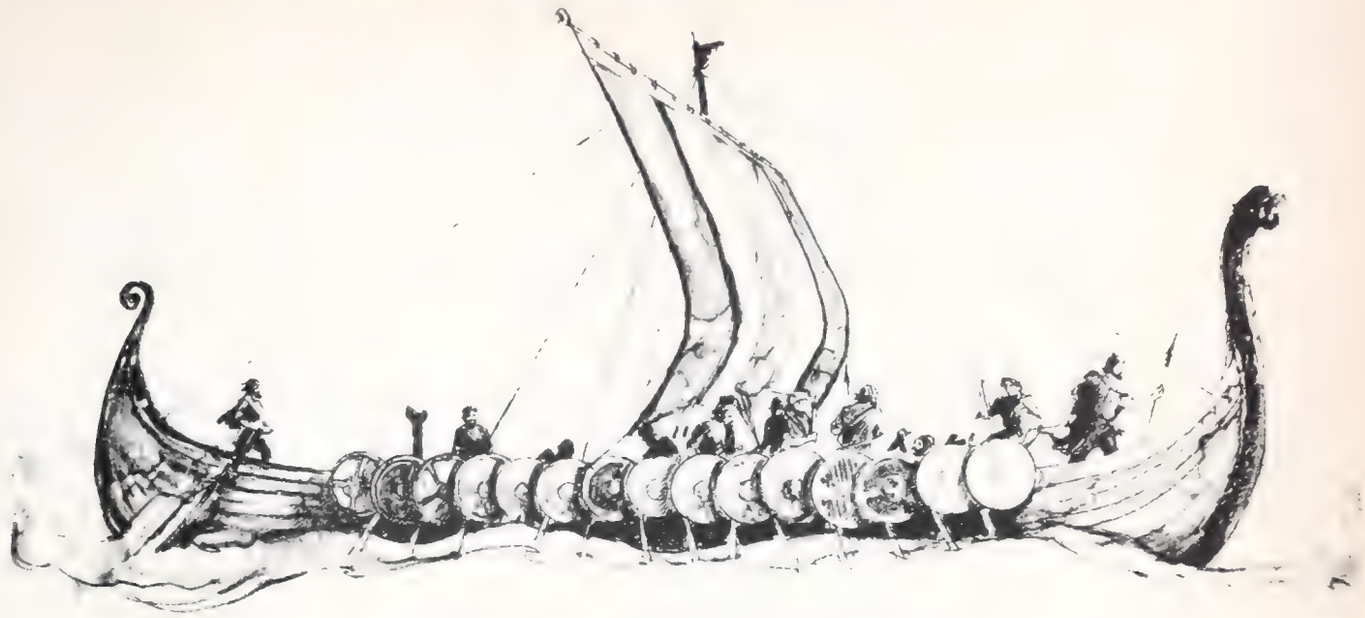
Three bills (SB 42, HB 304, SB 762) have been introduced relative to the Texas State Board of Health. These would expand the Board's membership from 9 (6 MDs or DOs, 1 pharmacist, 1 dentist, 1 engineer) to 12. The engineer would be removed, and a hospital administrator, nurse, veterinarian, and an optometrist would be added. TMA opposes the removal of the engineer and the addition of the optometrist; moreover, the Council believes that a Board of more than 12 members would be unwieldy.

The Health Facilities Council—Certificate of Need bills (SB 380, HB 512) place in the hands of a nine-member council and its hired director the major decisions concerning the establishment, expansion, licensure, and operation of all medical care facilities and major medical care services in Texas regardless of whether federal, local, or private funds are to be used. The bill would apply to local MH-MR centers, state hospitals, public hospitals, hospital district facilities, university training facilities, and proprietary institutions alike. TMA opposes these bills.

These are only a few of the many bills relating to medicine which have been introduced in the 63rd session of the Texas Legislature.

Physicians are urged to contact their senators and representatives immediately to express their views, to help assure that worthwhile measures will be passed, and that those of questionable value will be defeated.

Come To The Land Of The Vikings



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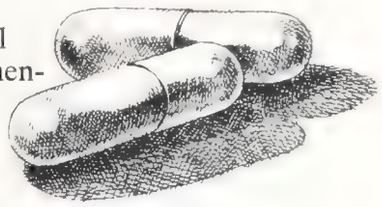

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It's Been a Very Good Year

It has been a short year! It doesn't seem possible that this year is gone and this is my last President's Page. First I want to thank each of you for allowing me this privilege of serving you during the past 12 months; then I want to tell you how grateful I am for having the honor of representing the physicians of the State of Texas.

Of course there have been a few trying times—things that I had never been exposed to before. We had been told that a solo practitioner shouldn't undertake the job, but even though I had to be out of the office a lot, my patients were proud to have their doctor serving his colleagues and being honored as their leader. My income was affected very little.

The Headquarters staff, headed by C. Lincoln Williston, is wonderful and takes excellent care of the President as well as anyone else who needs help.

Billie and I enjoy traveling and meeting people, so it has been fun. One would not be human if his ego were not boosted by the attention he gets while representing you as your President. For a small-town boy like me it has been exciting and I will always be grateful for this opportunity.

As always, there are many things ahead for the physicians of Texas. Just to mention a few: improve the public image of the physician through ethics and better public relations; promote continuing education through scientific meetings and our medical schools; promote education of family physicians and other primary care physicians; encourage an expanded role for nurses; develop a closer liaison with other health professionals; continue to implement the Texas Medical Foundation; and develop a PSRO operated by physicians.

Again, let me say *"Thank you,"* and that I will be available if I can be of service.

God bless you all!

Braswell Locker, M.D.

Braswell Locker, MD, President, Texas Medical Association.

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Warnings: Caution patients about possible combined effects with alcohol and other CNS depressants. As with all CNS-acting drugs, caution patients against hazardous occupations requiring complete mental alertness (*e.g.*, operating machinery, driving). Though physical and psychological dependence have rarely been reported on recommended doses, use caution in administering to addiction-prone individuals or those who might increase dosage; withdrawal symptoms (including convulsions), following discontinuation of the drug and similar to those seen with barbiturates, have been reported. Use of any drug in pregnancy, lactation, or in women of childbearing age requires that its potential benefits be weighed against its possible hazards.

Precautions: In the elderly and debilitated, and in children over six, limit to smallest effective dosage (initially 10 mg or less per day) to preclude ataxia or oversedation, increasing gradually as needed and tolerated. Not recommended in children under six. Though generally not recommended, if combination therapy with other psychotropics seems indicated, carefully consider individual pharmacologic effects, particularly in use of potentiating drugs such as MAO inhibitors and phenothiazines. Observe usual precautions in presence of impaired renal or hepatic function. Paradoxical reactions (*e.g.*, excitement, stimulation and acute rage) have been reported in psychiatric patients and hyperactive aggressive children. Employ usual precautions in treatment of anxiety states with evidence of impending depression; suicidal tendencies may be present and protective measures necessary. Variable effects on blood coagulation have been reported very rarely in patients receiving the drug and oral anticoagulants; causal relationship has not been established clinically.

Adverse Reactions: Drowsiness, ataxia and confusion may occur, especially in the elderly and debilitated. These are reversible in most instances by proper dosage adjustment, but are also occasionally observed at the lower dosage ranges. In a few instances syncope has been reported. Also encountered are isolated instances of skin eruptions, edema, minor menstrual irregularities, nausea and constipation, extrapyramidal symptoms, increased and decreased libido—all infrequent and generally controlled with dosage reduction; changes in EEG patterns (low-voltage fast activity) may appear during and after treatment; blood dyscrasias (including agranulocytosis), jaundice and hepatic dysfunction have been reported occasionally, making periodic blood counts and liver function tests advisable during protracted therapy.

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ON THE COVER

When the Paperwork Monster strikes, it's time to call for . . . CPT! Current Procedural Terminology (or CPT for short) is the physician's own superhero. He can finish hours of paper work in minutes. He can reduce office costs with a few digits. He can give you time to see more patients or go on vacation or prune your rosebushes. Read all about him on page 61! Learn how to call CPT to the rescue when the Paperwork Monster roosts on your desk.

NEXT MONTH

In June, *Texas Medicine* will publish another symposium on drugs, consisting of articles prepared by the SAMA Drug Committee of Baylor College of Medicine. The articles will deal with alcohol, amphetamines, cocaine, the benzodiazepines, methylphenidate, nonbarbiturate sedatives, and opiates.

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NEWS

House of Delegates acts on PSRO, education, TMF

Working amidst a fusillade of issues, the Texas Medical Association's House of Delegates has formally adopted several proposals which could substantially affect the future of patient care and the practice of medicine in Texas.

In action taken May 4 and 5, the House voted to authorize an organization which would perform the functions of a Professional Standards Review Organization. At the same time, the House ordered TMA to work for the repeal of the PSRO section of PL 92-603, which was adopted by the 92nd Congress last fall.

In addition, the House voted to meet twice a year instead of annually; to reorganize its interim policy making body; and to reiterate its support for the Texas Medical Foundation—established in a special session held earlier this year.

Among other actions taken by the House were (1) support of full funding and development of all six existing medical schools in Texas, rather than the development of new schools at this time; (2) encouragement of development of more primary care physicians, and incentives for drawing medical students into rural areas after graduation; (3) support of further development of continuing education achievements and voluntary reporting by Texas physicians; (4) support of medical student membership in TMA; and (5) reaffirmation of long-standing policies on abortion.

In order to provide support for these actions, as well as for continuing programs, the House authorized the Board of Trustees to increase membership dues by $10 in 1974, adding an additional $5 increase when needed.

Professional Standards Review Organization

While unanimously supporting the repeal of the PSRO portion of Public Law 92-603, the House authorized the creation and support of an organization "that qualifies under all applicable laws to perform all of the functions of a Professional Standards Review Organization throughout the State of Texas under a single organization." The House declared that the "sole guiding principle of the organization" would be "to insure the continuing improvement of quality of care in this state as Texas physicians have always done."

The House further recommended that the Board of Trustees use

every possible means to effect the designation of the State of Texas as a single PSRO area.

Continuing Medical Education

Responding to the charge from the 1972 House regarding documentation of continuing education for members, TMA's governing body reaffirmed support for "voluntary, multivaried, and positive" continuing education for all physicians in Texas. Further, the House established an acceptable means of documentation of the activities; determined a means of evaluation of all types of continuing education; and supported creation of a specific working organization within the association to permanently implement the recommendations.

Support of Existing Medical Schools

In the face of cutbacks in funding for medical education, the House voted to support full funding and development of full enrollment at the state's six existing medical schools before any new medical schools are established. In taking the action, the House joined outgoing President Braswell Locker in noting that Texas is doing more than any other state to educate, train, and to attract new doctors.

Dr. Locker advocated the action in a speech before the House of Delegates and proposed five recommendations, all of which were adopted by the House. The recommendations are:

1. That the Texas Medical Association should continue to work actively to assist the six medical schools in the state to procure ample financial support to continue programs which are already under way to educate more physicians;
2. That the Texas Medical Association should renew its appeal to medical schools to educate and train more primary care physicians, and that medical schools and hospitals be urged to create a larger number of places in residency training programs in family medicine, internal medicine, obstetrics and gynecology, and pediatrics. To help achieve this objective, Dr. Locker recommended that TMA should support fund requests of medical schools;
3. That the Texas Medical Association cannot support, and cannot ask Texas taxpayers to provide funds for the creation of proposed additional medical schools. Dr. Locker said medical manpower goals can be achieved more economically by providing ample

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funding to existing schools.
4. That TMA should express its appreciation to the Governor, the Legislature, the Coordinating Board of the Texas College and University System, and the medical schools for achievements in education and training of more physicians. In addition, Dr. Locker recommended continuing working with these agencies, asking them to support Association programs; and
5. That TMA move forward with its own programs designed to provide an ample number of doctors for Texas, to encourage medical students and physicians in training to be mindful of opportunities in primary care, and to invite them to locate in areas where doctors are most acutely needed.

Abortion
The delegates considered several recommendations concerning abortion, offered in the wake of the recent Supreme Court decision, and reaffirmed TMA's long-standing policy that states "the Texas Medical Association holds that abortion is a medical procedure and should be performed only by a duly licensed physician and surgeon in a licensed hospital acting only in conformance with standards of good medical practice, and after proper medical consultation. The Texas Medical Association states further that no physician or other professional personnel shall be compelled to perform any act which violates his good medical judgment. Neither physicians, hospital, nor hospital personnel shall be required to perform any act which violates moral principles which they might hold. This definition of position shall not be interpreted as an endorsement of abortion on demand or request; further, it shall not be interpreted as endorsement of the use of abortion as a part of a social movement."

Restructuring of Executive Board
With minor changes, the delegates accepted the report of the Ad Hoc Committee Concerning Structure, Functions, and Responsibilities of TMA's Executive Board. In its report to the House, the ad hoc committee observed that the Executive Board, as it was presently constituted, was too large; did not meet as frequently as necessary; and that its two meetings per year were too short to allow any significant consideration of the numerous business items on each agenda.
Therefore, the House voted to reorganize the board. Membership on the newly-constituted board will consist of the president; vice president; president-elect; immediate past president; secretary; treasurer; speaker and vice speaker of the House; all members of the Board of Trustees; the chairman and vice chairman of the Board of Councilors and of the AMA delegation; chairman of the Council on Medical Legislation; and three members elected at large from elected members of the House of Delegates.
At-large members of the House elected to the board are Drs. Milton V. Davis of Dallas; Joseph T. Painter of Houston; and Carlos D. Godinez of McAllen.
The presiding officer will be the Association president, and all Executive Board members will be ex officio members of the House of Delegates.

Texas Medical Foundation
Delegates reaffirmed their support of the creation of the Texas Medical Foundation, established during a special session of the House in January, by adopting bylaws for the Foundation.
Although the House recommended in January that TMF bylaws specifically prohibit the Foundation from delivery of health care and contracting for individual physicians' services, the reference committee noted in its report that if this activity is prohibited, affiliated or component local or regional groups might not be permitted to determine their own local direction.

(Continued on page 23)

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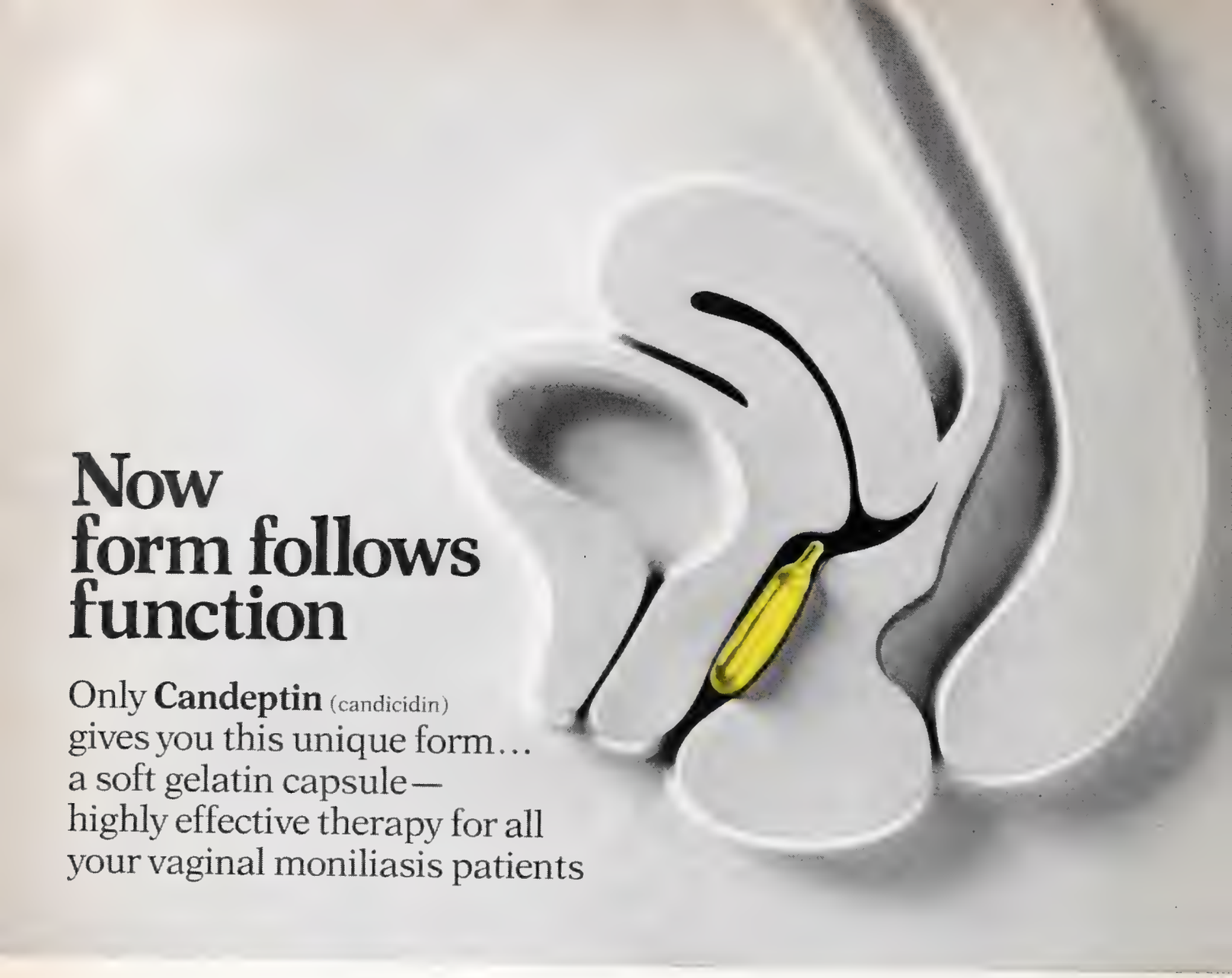

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References: 1. Olsen, J.R.: Journal-Lancet *85*:287 (July) 1965. **2.** Giorlando, S.W.: Ob/Gyn Dig. *13*:32 (Sept.) 1971. **3.** Decker, A.: Case Reports on File, Medical Department, Julius Schmid. **4.** Giorlando, S.W., Torres, J.F., and Muscillo, G.: Am. J. Obst. & Gynec. *90*: 370 (Oct. 1) 1964. **5.** Lechevalier, H.: Antibiotics Annual 1959-1960. New York, Antibiotica Inc., 1960. pp. 614-618. **6.** Friedel, H.J.: Maryland M.J., *15*:36 (Feb.) 1966.

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TMA urges Texas physicians to help in Nicaraguan relief effort

Although the story of the earthquake which took the lives of an estimated 10,000 Nicaraguans last December has faded from the newspaper headlines, the effects of the disaster on the tiny Central American country are still starkly apparent.

A particularly damaging result of the quake was the destruction of Managua General Hospital, the country's largest medical facility. The need for medical supplies and hospital equipment is still acute.

Recognizing the continuing needs of the Nicaraguan people, a letter from TMA Past President Braswell Locker went out in April to all county medical society presidents, secretaries, and executive secretaries appealing for supplies to outfit two 250-bed hospitals, the Managua General Hospital, which is planned for rebuilding, and two others which are in partial operation.

Almost any materials and supplies commonly used in outfitting a hospital are needed, and used equipment in good condition is also being accepted. Specific needs include linens of all kinds, bandaging supplies, and basic medications for treatment of common conditions—antibiotics, gastrointestinal drugs, antiseptics, vitamins, disinfectants, and antihistamines. Equipment needs include sterilizers, refrigeration equipment, laboratory equipment and reagents, and surgical instruments.

The Nicaraguan Emergency Committee also is asking for equipment to outfit physicians' offices.

All materials gathered are to be sent prepaid by motor freight to Mrs. Hope de Somoza, Nicaraguan Emergency Committee, 4809 South Loop East, Houston 77033. Mrs. Somoza is the wife of Gen. Anastasio Somoza, leader of the Nicaraguan national guard and provisional head of the government.

From Houston, the supplies will be taken to Nicaragua on ships from the Mamenic Line, a Nicaraguan-owned concern. Mamenic Line ships regularly call at the Port of Houston.

Although donations of equipment and supplies are preferred, cash donations will be accepted and should be sent to the Nicaraguan Medical Relief Fund, c/o Harris County Medical Society, 400 Jesse H. Jones Library Building, Houston 77025. Cash donations will be used to purchase materials and supplies not collected through the material donation program.

The effort is being coordinated through the Harris County Medical Society, which responded to calls for help from Nicaragua in December with 12,000 pounds of medical equipment and 6,000 pounds of food donated by a local civic club.

Members of the Woman's Auxiliary to the Texas Medical Association are also being urged to join the effort to gather supplies.

Over $11 million paid Texas MDs by CHAMPUS in 1972

Nearly 111,500 claims were paid to Texas physicians by the Civilian Health Program of the Uniformed Services (CHAMPUS) in 1972. John J. Wrabetz, assistant vice president of CHAMPUS, says these claims represented $11,427,400 paid to Texas physicians.

Wrabetz says that Mutual of Omaha, contractor and fiscal administrator for CHAMPUS for the past 16 years, has experienced increases in the volume of claims and the amount paid to civilian sources in each of those years. In 1972, CHAMPUS processed nearly 438,000 claims for $112.8 million, reports Wrabetz. This figure, he says, is a $12 million increase over 1971.

During the first nine weeks of this year, a 27% increase in average claim receipts over 1972 would seem

to indicate that dependents of active duty and retired military personnel are continuing to use CHAMPUS in increasing numbers.

Childbirth and complications of pregnancy account for the bulk of CHAMPUS claims, says Wrabetz. This classification represented 33.9% of CHAMPUS claims in 1971, according to the 15th annual report of the military health care program. Diseases of the respiratory system were second, with 10.4%; 10.2% represented diseases of the genitourinary system; 7% of admissions were for mental disorders; and 6.6% of claims were for accidents, poisonings, and violence.

CHAMPUS covers dependents of active duty military personnel, retired military members and their dependents, and dependents of service members who died on active duty or retired status. The majority of CHAMPUS beneficiaries, however, continue to be dependents of active duty military personnel, states Wrabetz. Citing the 1971 report, he says that the number of potential CHAMPUS beneficiaries is estimated at 3.7 million dependents of active duty personnel, 859,000 retirees, and 1.6 million dependents of retired or deceased military personnel.

CHAMPUS claims are paid on the basis of a "reasonable fee" which is defined as the physician's customary charge for the service provided consistent with the area prevailing fee for the same service, determined at the 90th percentile of charges for that service.

Wrabetz says that CHAMPUS will forward supplies of CHAMPUS claim forms and informational material on request. Physicians also should be receiving an informational pamphlet from the program soon.

TTUSM making rapid progress

Texas Tech University School of Medicine, the newest addition to Texas' health care education facilities, has experienced rapid growth and progress during its first year of operation.

Ground was broken Feb 2 for a $35 million building which will house basic and clinical medical science faculty offices, student study and work areas, multi-purpose laboratories, a university health service, and ambulatory clinical laboratory-teaching facilities. The new building will consist of three six-story sections. The first finished portion is expected to be completed by July 1975. The initiation of the building program was made possible by the return of $7.5 million in construction funds from the state.

Meanwhile, the school has entered into 17 affiliation agreements with 19 West Texas health care institutions. The latest institutions to enter into affiliation agreements with TTUSM are Amarillo Veterans Administration Hospital and High Plains Baptist Hospital in Amarillo; Permian General Hospital, Andrews; Big Spring Veterans Administration Hospital; William Beaumont General Hospital, El Paso; and Lubbock Medical Center Hospital, Lubbock City-County Maternity Clinic, The Presbyterian Center, Reese Air Force Base Hospital, and Posey Clinic, all in Lubbock.

Several research grants have been received by the faculty. A $36,000 grant from the Robert A. Welch Foundation will enable the Department of

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Biochemistry to study the molecular structure and catalytic properties of arylamidase. The Department of Pharmacology and Therapeutics will use a $9,791 grant to study drug-induced motor dyskinesia, and a $2,500 grant to investigate the use of the new drug carbidopa in the treatment of Parkinsonism.

Three other programs will help provide financial aid to students. The Mrs. Pauline Lane Memorial Medical Student Loan Fund was established in mid-December. The Robert Wood Johnson Foundation has provided $25,100 for scholarships and loan awards to women, students from rural backgrounds, blacks, Indians, and Mexican-Americans. And, the US Department of Health, Education and Welfare has awarded a $42,500 grant for the establishment of pre-doctoral medical preceptorships.

Also this year, the TTUSM Board of Regents approved the establishment of a School of Pharmacy and a School of Allied Health Sciences, as well as graduate programs in anatomy, pharmacology and therapeutics, and physiology.

Average doctor bill declines under Medicare

The average doctor bill has been going down—not up—under Medicare, data from the Social Security Administration shows.

The SSA reports that average charges by doctors for medical care services are lower than when the program began—down 5.2% for surgical services and down 11.5% for outpatient medical care. The figures are published in *AMA Update*.

Hospital bills, on the other hand, have nearly doubled—up 83%—by the end of 1971, the SSA data shows. In July 1966, average charges were: hospitals, $47 per day; surgeons, $174 per procedure; and medical services, $52. In December 1971, hospitals had climbed to $86 per day, but surgeons and medical services categories had dropped to $165 and $46, respectively.

The figures given are for the period beginning with the advent of Medicare in the summer of 1966 through the end of 1971. Figures for 1971 are not yet available.

WATMA contributes $16,000 to AMA-ERF funds

US medical schools are getting $963,823 in grants this year from the AMA Education and Research Foundation (AMA-ERF), and $16,000 of that money was collected by the Woman's Auxiliary to the Texas Medical Association (WATMA), says Dr. Kenneth C. Sawyer, foundation president.

Of the $963,823 total, $21,492 went to Texas' six medical schools. Individual amounts ranged from $6,015 for The University of Texas Medical Branch at Galveston, to $1,141 to the new University of Texas Medical School at Houston. Other amounts and schools are: Baylor College of Medicine, Houston, $4,843; The University of Texas Southwestern Medical School at Dallas, $4,104; The University of Texas Medical School at San Antonio, $3,747; and Texas Tech School of Medicine, Lubbock, $1,540.

AMA-ERF is funded by donations from doctors and their spouses through the AMA Woman's Auxiliary and its state components, such as WATMA.

Since 1951, when the program began, a total of $23,843,234 has been distributed to medical schools, Dr. Sawyer said. In addition, AMA-ERF has guaranteed more than 48,000 loans, totaling more than $50 million, to medical students, interns, and residents. A special, interest-free loan program is available to especially needy people.

Space age spinoff may help MDs

A miniaturized medical diagnostic system originally planned for use aboard manned space stations and now undergoing tests at the L. B. Johnson Space Center (JSC) in Houston (formerly the Manned Spacecraft Center), may find its way into everyday clinical use with pediatric and geriatric patients, says the National Aeronautics and Space Administration (NASA).

The prototype of a miniature clinical laboratory system developed by the Atomic Energy Commission (AEC) at Oak Ridge, Tenn, for NASA provides fast, automated blood analyses using only one-fiftieth of the amount of blood required by existing analyzers. The analyzer will be used in clinical situations after tests at JSC are completed.

Dr. Elliott Harris, chief of the Environmental Health Branch of JSC's Life Science Directorate, says the miniature analyzer weighs only 13.6 kg and occupies the space of 95.5 sq cm (no more than a desk top). Dr. Harris says the system is close to being completely automated.

One of the system's benefits, says Dr. Harris, is that it only requires .10 of a cc of blood to complete 12 simultaneous analyses for which existing analyzers require as much as 5 cc to perform a single analysis.

The present system consists of the miniaturized analyzer, several rotors, a portable data printer, an automated sample and reagent loader, and a rotor washing station. In addition, the system has the capability of on-line computer application, NASA says.

Dr. Harris expects that the analyzer will be verified and used in clinical situations. He says the system would allow a pediatrician to analyze an infant's blood sample using only a drop of blood. The system could be used in the office with results available in minutes. The same holds true, states NASA, for geriatric patients, emergency room patients, and victims of accidents, where rapid multiple analyses using minimum blood samples are vital.

Board of Family Practice slates exams in October

The American Board of Family Practice has announced that it will give its next two-day written examination Oct. 20-21, 1973, in various centers throughout the United States.

Each physician desiring to take the examination must file a completed application with the board office by Aug 1, 1973, says Dr. Nicholas J. Pisacano, secretary of ABFP.

More information on the examination is available by writing Dr. Pisacano, American Board of Family Practice, Inc., University of Kentucky Medical Center, Annex #2, Room 229, Lexington, Ky 40506.

UNIT VALUES FOR TMA MEMBERS RETIREMENT PLAN AND TRUST

(As a service to participants in the TMA Members Retirement Plan and to physicians interested in enrolling in the program, comparative values for investments are listed. Figures shown are the latest available at press deadline and are for comparison purposes only. Most daily newspapers list up-to-the-minute values on mutual funds.)

Investment media	Original price 9-30-68	Net asset value per share 3-31-73	Net asset value per share 3-31-73*
Mercantile National Bank Stock Fund	$10.25	$11.70	$11.70
Loomis-Sayles Capital Development Fund	14.20	13.20	15.36
T. Rowe Price Growth Stock Fund	25.93	28.81	33.28
Loomis-Sayles Mutual Fund	16.82	14.97	19.51
Stein Roe & Farnham Balanced Fund	23.34	22.28	29.61
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*Adjusted to include dividends and distributions since 9-30-68.

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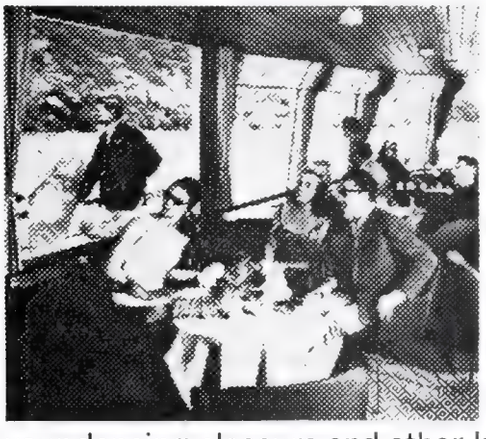

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TEST	HYPOTHYROID	SYNTHROID THERAPEUTIC NORMAL
P.B.I.	Less than 4 mcg %	6-10 mcg %
T_4 By Column	Less than 3 mcg %	7-9 mcg %
T_3 (Resin)	Less than 25%	27-35%
T_3 (Red Cell)	Less than 11%	11.5-18%
Free Thyroxine	Less than 0.7 nanograms %	0.7-2.5 nanograms %
Murphy-Pattee	Less than 2.9 mcg %	4-11 mcg %

AS WITH ANY THYROID PREPARATION, CAUTIOUS OBSERVATION OF THE PATIENT DURING THE BEGINNING OF THERAPY WILL ALERT THE PHYSICIAN TO ANY UNTOWARD EFFECTS.

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The conversion has been clinically demonstrated during the administration of T_4 to athyrotic patients. Their thyroid status is normalized on SYNTHROID alone, yet the presence of T_3 in these patients has been clearly shown.

WHY DOES SYNTHROID COST LESS THAN SYNTHETIC DRUGS CONTAINING T_3?

Very simple. T_3 costs more to make synthetically than does T_4. So it is economically necessary for a synthetic thyroid medication containing T_3 to cost more than one containing T_4 alone. Synthetic combinations cost patients nearly 50% more than SYNTHROID[3] because the T_3 costs more to start with; also there is the additional expense of formulating a tablet containing two active ingredients.

1. Latiolais, C. J., and Berry, C. C.: Misuse of Prescription Medications by Outpatients, *Drug Intelligence & Clin. Pharm.* 3:270-7, 1969.
2. Braverman, L. E., Ingbar, S. H., and Sterling, K.: Conversion of Thyroxine (T4) to Triiodothyronine (T3) in Athyreotic Human Subjects, *J. Clin. Invest.* 49:855-64, 1970.
3. American Druggist BLUEBOOK, March, 1971.

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Precautions: As with other thyroid preparations, an overdosage may cause diarrhea or cramps, nervousness, tremors, tachycardia, vomiting and continued weight loss. These effects may begin after four or five days or may not become apparent for one to three weeks. Patients receiving the drug should be observed closely for signs of thyrotoxicosis. If indications of overdosage appear, discontinue medication for 2-6 days, then resume at a lower dosage level. In patients with diabetes mellitus, careful observations should be made for changes in insulin or other antidiabetic drug dosage requirements. If hypothyroidism is accompanied by adrenal insufficiency, as Addison's Disease (chronic subcortical insufficiency), Simmonds's Disease (panhypopituitarism) or Cushing's syndrome (hyperadrenalism), these dysfunctions must be corrected prior to and during SYNTHROID (sodium levothyroxine) administration. The drug should be administered with caution to patients with cardiovascular disease; development of chest pains or other aggravations of cardiovascular disease requires a reduction in dosage.

Contraindications: Thyrotoxicosis, acute myocardial infarction. **Side effects:** The effects of SYNTHROID (sodium levothyroxine) therapy are slow in being manifested. Side effects, when they do occur, are secondary to increased rates of body metabolism; sweating, heart palpitations with or without pain, leg cramps, and weight loss. Diarrhea, vomiting, and nervousness have also been observed. Myxedematous patients with heart disease have died from abrupt increases in dosage of thyroid drugs. Careful observation of the patient during the beginning of any thyroid therapy will alert the physician to any untoward effects.

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Dosage and Administration: The activity of a 0.1 mg. SYNTHROID (sodium levothyroxine) TABLET is equivalent to approximately one grain thyroid, U.S.P. Administer SYNTHROID tablets as a single daily dose, preferably after breakfast. In hypothyroidism without myxedema, the usual initial adult dose is 0.1 mg. daily, and may be increased by 0.1 mg. every 30 days until proper metabolic balance is attained. Clinical evaluation should be made monthly and PBI measurements about every 90 days. Final maintenance dosage will usually range from 0.2-0.4 mg. daily. In adult myxedema, starting dose should be 0.025 mg. daily. The dose may be increased to 0.05 mg. after two weeks and to 0.1 mg. at the end of a second two weeks. The daily dose may be further increased at two-month intervals by 0.1 mg. until the optimum maintenance dose is reached (0.1-1.0 mg. daily).

Supplied: Tablets: 0.025 mg., 0.05 mg., 0.1 mg., 0.15 mg., 0.2 mg., 0.3 mg., 0.5 mg., scored and color-coded, in bottles of 100, 500, and 1000. Injection: 500 mcg. lyophilized active ingredient and 10 mg. of Mannitol, N.F., in 10 ml. single-dose vial, with 5 ml. vial of Sodium Chloride Injection, U.S.P., as a diluent. SYNTHROID (sodium levothyroxine) **for Injection** may be administered intravenously utilizing 200-400 mcg. of a solution containing 100 mcg. per ml. If significant improvement is not shown the following day, a repeat injection of 100-200 mcg. may be given.

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The AMA's voice can only be as strong as all of us, members of the profession, choose to make it. Together, we can more effectively represent ourselves and our views.

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Briscoe names 5 TMA members to drug advisory group

Five members of the Texas Medical Association, including Past President Braswell Locker, have been named by Governor Dolph Briscoe to a 28-member Drug Advisory Council which was created to assist the governor in drug prevention activities, including the development of a drug abuse plan for the state.

According to the Governor's Office, the council will make recommendations to the governor with respect to overall state planning and policy making in such areas as treatment and rehabilitation, education, enforcement, and drug abuse prevention.

TMA members, in addition to Dr. Locker, who are serving on the committee include: Dr. Joseph Schoolar, director of the Texas Research Institute of Mental Sciences in Houston; Dr. Earl Mgebroff, Yoakum family physician; Dr. Jerry M. Lewis, a psychiatrist at Timberlawn Psychiatric Hospital in Dallas; and Dr. Russell Deter, El Paso, a member of the AMA Committee on Alcoholism and Drug Abuse.

Gov. Briscoe, who will serve as chairman of the council, said he will call the first meeting of the new group soon. The council is expected to conduct hearings in various sections of the state to obtain the information necessary for the development of a state drug abuse plan.

Although 17 state agencies are involved in some manner with the drug abuse problem, Gov. Briscoe has designated the Texas Department of Community Affairs to coordinate all drug abuse prevention activities in Texas.

Lions announce 3 dates for diabetic children's camps

The Lions of Texas, in cooperation with the South Texas Diabetes Association, has announced 1973 dates for three camps for diabetic children.

The 1973 program includes three camping sessions at two different sites. The first is a two-week session June 4 through June 15 at Camp Manison near Friendswood. This camp is for diabetic children from 6 through 16 years of age and is limited to 150 campers. From June 18 through July 6, a three-week camp session is scheduled at Friendswood for 50 diabetic children who have attended camps for diabetics previously. This session will operate in conjunction with the regular Camp Manison session. The third camping period will operate in conjunction with the regular session for handicapped children at the Texas Lions Camp in Kerrville. It will run from July 29 through Aug 11 for 75 diabetic campers from 10 through 16 years of age.

All three of the sessions are under the resident medical supervision of the Department of Pediatrics of The University of Texas Medical Branch at Galveston. Medical director will be Dr. Luther B. Travis from UTMB.

The Texas Lions Camp will provide insulin, syringes, and all other diabetic testing equipment for the children. Other medications which the child may be taking on a regular basis must be brought from home and left with the medical staff. The medical staff reminds physicians that it is very important that they be informed of particular dosages of medications,

NEWS

NEWS

including insulin, and of details of dietary therapy.
Camp officials say that first priority in admissions will be given to children who have been diabetic for less than two years and who have never attended a camp for diabetics. Second in line will be children who have been diabetic for more than two years, but who have never attended a camp for diabetics. Third priority is given to children who have been diabetic for any length of time and have attended the camp previously.
In addition, the medical staff attempts to provide optimum care for all health needs of the children; to maintain adequate diabetic controls; and to teach the children about the nature of their disease and how it may be controlled. The medical staff also tries to make the campers as responsible as possible for their own care.
In addition to medical instruction, camp activities include swimming, horseback riding, arts and crafts, Indian lore, riflery, trapshooting, archery, gymnastics, fencing, golf, and athletics.
The staff of the camp includes pediatricians, registered nurses, dieticians, a camp director, a program director, and counselors.
For more information, physicians may write Texas Lions Camp, PO Box 247, Kerrville, Tex 78028, or phone 512-257-5104.

Physicians' questions on HMOs answered in new HEW booklet

The Department of Health, Education and Welfare has just published a 20-page pamphlet, available free, called *Questions Physicians Are Asking About HMOs and the Answers.*
According to HEW, the booklet was developed in response to many questions received from physicians and from organized medicine.
Congress is presently considering several proposals concerning the expansion of the HMO concept, including Senator Edward Kennedy's S. 14, which is opposed by the Texas Medical Association.
Medical World News reports that many of the questions included in the publication are of direct interest to physicians. Subject matter includes discussions of physician turnover in existing HMOs, how doctors are compensated, and the role of the specialist in the HMO.
The booklet is available by writing Public Inquiries, Health Services and Mental Health Administration, 5600 Fishers Lane, Room 5B-29, Rockville, Md 20852.

Texas horsemen urged to renew VEE vaccinations

More than half the nation's 6.2 million horses remain unprotected against Venezuelan equine encephalomyelitis, reports the *Journal of the American Medical Association.*
Even though only one human case was reported last year, and no confirmed animal cases were reported, the US Department of Agriculture has warned that the threat of more cases will grow as the pool of unvaccinated animals grows.
Agriculture officials are now urging re-vaccination of horses and other equines, specifically foals vaccinated before six months of age, and horses which were vaccinated in 1971. Re-vaccination efforts should be concentrated in Texas, New Mexico, Arizona and Southern California, says the agriculture department. Also, the department recommends vaccination for all horses which are moved interstate, such as race and show horses.
During the 1971 VEE epidemic, some 2.8 million horses were vaccinated at government expense. Now, commercially produced VEE vaccine is available from practicing veterinarians and can only be administered by them.

(Continued from page 8)

Cited as an example was the Rio Grande Valley regional foundation which could be prevented from fulfilling its primary reason for existence if delivery of health care were prohibited. Therefore, the House did not specifically prohibit such action.
The TMF bylaws will permit any physician licensed by the Texas State Board of Medical Examiners to be eligible for election to participating membership; provide that a physician refused membership may request a hearing before the Board of Directors; and state that the right to vote shall be held by corporate members only (corporate members are members of the TMA House of Delegates.)

Membership for Medical Students
The House approved an amendment to the Constitution permitting medical students to become members of TMA. Students must be attending a school pursuing a course of study approved by the Texas State Board of Medical Examiners and leading to a degree of MD or DO.

Elections
Dr. Charles B. Dryden of Wichita Falls assumed the presidency of the Association (see p 100). Named president-elect was Dr. Ed W. Schmidt of Pecos. Dr. Paul R. Meyer of Port Arthur was elected vice president. Drs. Jack B. Lee and Travis Smith were reelected as speaker and vice speaker of the House of Delegates, and Dr. C. W. Yates was reelected as a member of the Board of Trustees.
Selected as Councilors were Dr. John C. Hundley, Fort Stockton, first district; Dr. Gus F. Eckhardt, San Angelo, fourth district; Dr. George Thannisch, Lufkin, tenth district; Dr. Norris E. Holt, Athens, eleventh district; Dr. Drue O. D. Ware, Fort Worth, thirteenth district; Dr. Oscar M. Marchman, Dallas, fourteenth district; and Dr. Orin Littlejohn, Marshall,fifteenth district.
Reelected as AMA delegates were Drs. Joe T. Nelson, Weatherford, chairman; R. D. Moreton, Houston; Haden E. McKay, Humble; Walter Walthall, San Antonio; James D. Murphy, Fort Worth; Charles Max Cole, Dallas, vice chairman; and J. E. Miller, Dallas. Alternate delegates are Drs. Merle W. Delmer, San Antonio; Braswell Locker, Brownwood; Mylie E. Durham, Jr., Houston; G. V. Brindley, Jr., Temple; Sam A. Nixon, Floresville; and John R. Rainey, Austin.
Dr. John M. Smith, Jr., has been reelected as chairman of the Board of Trustees, and Dr. Haden E. McKay, Sr., is chairman of the Board of Councilors.

Honors
Two physicians and one TMA staff member were honored at the House meeting in Dallas. Dr. Howard O. Smith of Marlin, a past TMA president, is the recipient of the 1973 Distinguished Service Award. Another TMA past president, Dr. May Owen of Fort Worth, was honored for "her distinguished career as a pathologist, a tireless worker for our profession, a benefactor, and a civic leader." Dr. Owen has just made the May Owen Trust, which provides financial assistance to medical students, a perpetual one. Her portrait will be hung in the Association's Headquarters Building in Austin.
Also honored was Miss Pauline Duffield, head librarian of TMA's Memorial Library for over 20 years. The Board of Trustees has created the Pauline Duffield Fund as a living memorial to this dedicated staff member. The money from the fund will be used for the future development of the library.

Dallas crime lab chief heads Academy of Forensic Sciences

Dr. Morton F. Mason, PhD, director of the Dallas County Criminal Investigation Laboratory, has been elected president of The American Academy of Forensic Sciences.

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Final classification of the less-than-effective indications requires further investigation.

Contraindication: Idiosyncrasy to this drug.

Warnings: Data supporting the use of nitrites during the early days of the acute phase of myocardial infarction (the period during which clinical and laboratory findings are unstable) are insufficient to establish safety.

Precautions: Tolerance to this drug and cross-tolerance to other nitrites and nitrates may occur. In patients with functional or organic gastrointestinal hypermotility or malabsorption syndrome, it is suggested that either the ISORDIL 5 mg. or 10 mg. Oral tablets or sublingual tablets be the preferred therapy. The reason for this is that a few patients have reported passing partially dissolved ISORDIL TEMBIDS tablets in their stools. This phenomenon is believed to be on the basis of physiological variability and to reflect rapid gastrointestinal transit of the sustained action tablet. TEMBIDS SHOULD NOT BE CHEWED.

Adverse Reactions: Cutaneous vasodilation with flushing. Headache is common and may be severe and persistent. Transient episodes of dizziness and weakness as well as other signs of cerebral ischemia associated with postural hypotension may occasionally develop. This drug can act as a physiological antagonist to norepinephrine, acetylcholine, histamine, and many other agents. An occasional individual exhibits marked sensitivity to the hypotensive effects of nitrite, and severe responses (nausea, vomiting, weakness, restlessness, pallor, perspiration and collapse) can occur even with the usual therapeutic dose. Alcohol may enhance this effect. Drug rash and/or exfoliative dermatitis may occasionally occur.

Consult direction circular before prescribing.

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Allied health manpower needs are subject of TMF study

The problem of maintaining an adequate supply of well-trained allied health personnel is one which concerns physicians as well as health educators.

In an effort to help contribute to the solution of this problem, the Texas Medical Association is cooperating with the Texas Medical Foundation in a study designed to determine the number of allied health workers presently employed by non-federal Texas physicians, to identify shortages, and to estimate future needs.

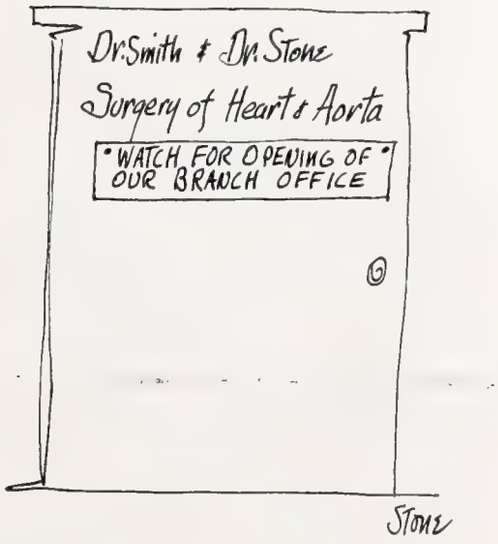
The first step in the study consists of surveying about 12,000 non-federal physicians in the state. On the survey form, which was mailed in mid-April, physicians are asked to report the number of full-time and part-time allied health personnel whom they employ, the number of positions open at the end of the reporting period, and the number of vacancies which they anticipate for 1974.

The TMF study will seek survey data on 40 vocations. Included will be diagnostic, radiologic, therapeutic services, and nursing personnel, as well as medical assistants and secretarial and clerical employees.

When completed, TMF hopes to have base-line data concerning present numbers of allied health personnel; factual information about current manpower needs; an idea of the projected supply of allied health personnel through 1974; and an understanding of the major causes of allied health manpower shortages.

The data collected should prove valuable to the Coordinating Board of the Texas College and University System and to other agencies responsible for developing state and regional allied health education programs.

The study is being funded by the Regional Medical Program of Texas, which is also supplying money to other groups to survey hospitals, nursing homes, hospital-based physicians and other professionals.



Dallas program trains bilingual medical assistants

The first class of bilingual medical assistants to be trained by Operation SER (Service, Employment, Redevelopment) was graduated March 10 in Dallas.

Operation SER specializes in vocational training, and is funded by the Department of Labor through the Manpower Development and Training Act. The program is designed to work toward improving the social, economic, and general welfare of the Mexican-American in the Southwest.

In addition to the bilingual medical assistant program, Operation SER offers remedial education, job preparation courses, pre-vocational and vocational programs, and on-the-job training. SER is a joint effort of LULAC and GI Forum, groups which are concerned with improving the lot of the Mexican-American citizen.

Fourteen medical assistants were graduated from the first class, and a second class is now being enrolled.

The main speaker at the graduation exercises was Dr. Milford O. Rouse, past president of TMA and AMA, and a counselor for the American Association of Medical Assistants (AAMA).

NEWS

UTMB researchers isolate 'cystic fibrosis factor'

Two researchers at The University of Texas Medical Branch at Galveston have isolated a "cystic fibrosis factor" which circulates in the blood of patients with cystic fibrosis, and in the blood of parents from whom the disease is inherited.

Drs. Barbara H. Bowman and Don R. Barnett, UTMB researchers, feel the event is a major breakthrough in C/F research because never before have scientists been able to obtain enough C/F material to carry out characterization experiments. Although the existence of such an agent has been known for several years, researchers previously have not been able to separate the agent from the serum which contains it.

Drs. Bowman and Barnett have managed to extract the material from tissue cultures of skin of patients with C/F.

The cystic fibrosis factor was identified through previous research done by Dr. Bowman when she was able to stop the ciliary activity in an oyster by introducing serum from a C/F patient or a carrier of the gene causing C/F in offspring. It is suspected that the functioning of similar cilia in the human trachea may be impaired by the cystic fibrosis factor in a similar way in persons with C/F.

Another benefit of the isolation is the opportunity it gives to study biochemical events demonstrated by the factor.

"When these biochemical processes are understood we will be in a position to attempt to reverse the inhibitory process of the C/F factor by finding agents to counteract it," said Dr. Barnett. "Equally important would be the development of an antibody enabling us to detect and quantitate the C/F agent. This may lead to a new and readily available test for early diagnosis of the disease and detection of the carrier of the gene."

Prior to isolating the agent from cell tissue, Drs. Bowman and Barnett studied a partially purified ciliary inhibiting factor taken from the blood of C/F patients and parents. Dr. Bowman explained that the difficulty with this technique was that the immunoglobins could not be separated from the C/F ciliary inhibitor when isolation was attempted.

The researchers have also recently found the ciliary inhibitor in culture media from fetal cells grown from the unborn baby of a C/F mother, who later gave birth to a child carrying the C/F gene. Cystic fibrosis is a recessive disease, and Dr. Bowman thinks that if this technique can be managed, it will greatly strengthen prenatal diagnosis, giving a wider range to genetic counseling.

Dr. Bowman, chairman of the Department of Biological Chemistry and Human Genetics at UTMB, presented her laboratory's findings to the Sixth International Cystic Fibrosis Congress and National Cystic Fibrosis Research Foundation Medical Symposium March 14 in Washington, DC.

In addition, Drs. Bowman and Barnett, with Drs. Shannon Danes and Alexander Bearn of New York Hospital-Cornell Medical Center, and Dr. Reuben Matalon of the University of Chicago, have co-authored a paper on the ciliary inhibitor which was published in the February issue of the *Proceedings* of the National Academy of Science.

Dr. Bowman's research has been funded in part by the National Cystic Fibrosis Research Foundation, and the Institute of Arthritis, Metabolism, and Digestive Diseases of the National Institutes of Health. She has been working on the genetic C/F factor for more than five years. Dr. Barnett, an instructor at UTMB, has been associated with Dr. Bowman in C/F research for a year and a half.

Influenza, gonorrhea head Texas communicable disease list

Most physicians will not be surprised to learn that two of the most frequently occurring diseases in Texas are gonorrhea and syphilis. Statistics on these diseases, and others, are contained in the recently released year-end reports of officials of the Texas State Department of Health.

Despite the prevalence of venereal disease, health officials also see some optimistic notes in the year's report.

"There has been a sizeable drop in the occurrence of many childhood diseases which can be prevented through protective immunizations," said Dr. M. S. Dickerson, chief of the State Health Department's Communicable Disease Services Section. "This decline in occurrence of these diseases probably reflects the new mandatory school immunization law," he said.

State Health Department statistics indicate the following ranking of communicable diseases occurring in Texas in 1972, and the number of cases reported to the department:

The leading communicable disease was influenza and other flu-like illnesses, 170,126 cases. Second was gonorrhea, 58,404; third, strep throat, including scarlet fever, 50,274; fourth, mumps, 5,108; fifth, syphilis, 4,904; sixth, infectious and serum hepatitis, 4,185; seventh, tuberculosis, 2,576; eighth, measles, 1,618; ninth, rubella, 1,596; and tenth, shigellosis, 1,018.

Five of the state's top ten diseases showed significant decreases in 1972. Three are diseases for which immunizations are available: mumps, measles and rubella. The occurrence of new tuberculosis cases also showed a decrease. Perhaps the most encouraging decline, however, was in the occurrence of syphilis, which decreased 26% in one year.

On the other hand, gonorrhea has shown a substantial increase, which the State Health Department attributes to its massive screening program now being put into operation. Health officials estimate that approximately 250,000 cases of gonorrhea actually occurred in Texas last year.

Other diseases of statewide interest include a decrease in diphtheria, pertussis, and typhoid fever. Increases were recorded for infectious encephalitis and leprosy, and a stable reading was recorded for polio (four cases last year). No VEE (Venezuelan equine encephalomyelitis) was recorded.

The leading cause of death in Texas is heart disease, the health department says. Second are malignant neoplasms; third, cerebrovascular disease; fourth, accidents; fifth, influenza and pneumonia; sixth, mortality in early infancy; seventh, diabetes mellitus; eighth, bronchitis, emphysema and asthma; ninth, arteriosclerosis; and tenth, homicide.

Nationally, the Center for Disease Control in Atlanta reports the following communicable diseases: first, gonorrhea; second, chickenpox; third, mumps; fourth, infectious and serum hepatitis; fifth, tuberculosis; sixth, measles; seventh, syphilis, eighth, rubella; ninth, aseptic meningitis; and tenth, meningococcal infections.

The reported diseases for the nation do not include influenza or streptococcal infections.

"Are you thinking of putting me on one of those controversial drugs?"

Excessive ear wax is a problem for all seasons, but especially *summer.* In addition to causing hearing loss, wax can trap water inside ear passages. This adds to the problems of wax alone. Swimmers are particularly subject to this, but it can also happen in the shower. Either way, water and wax don't mix.

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This formula softens and facilitates removal of excessive ear wax.

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So make the good old summertime better. Recommend E.R.O. Ear Drops. Prescribed by physicians for more than 25 years, E.R.O. is safe and effective for children and adults.

DIRECTIONS: Warm and put three to five drops in ear, then soak a small plug of cotton with drops and swab out ear, or syringe the ear with warm water. Repeat treatment if needed.

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AMERICAN MEDICAL ASSOCIATION

"Confluence '73" will be the theme of the AMA 122nd Annual Convention to be held June 23-28 in New York City. Continuing education of physicians will be stressed in the scientific program by spotlighting 18 postgraduate courses—11 of them never before offered by the AMA. Registration fee for each course will be $35, except for the radiology program which has a tuition fee of $200. Many of the courses will be day-long sessions scheduled on Saturday or Sunday. A few others will be early morning, two-hour programs on Monday, Tuesday and Wednesday. Those attending qualify for Category 1 Credit toward the AMA Physician's Recognition Award.

An increasing trend toward presenting symposia exploring all facets of medical subjects is noted in the specialty programs for the June convention. Subjects to be offered will include diagnosis and treatment of gallstones, ulcerative colitis, management of heart irregularities, management of pain and many others.

The specialties of internal medicine, cardiology, family practice, general surgery and pathology will join together to present a program on the diagnosis and management of blood clots—one of the most important factors in heart attacks and strokes.

In addition to the scientific program, the AMA's House of Delegates will hold its semi-annual meeting during the convention. Dr. Russell B. Roth, Erie, Pa., will take office as new AMA president during the convention. A new president-elect will be named by the House of Delegates.

Included with the main convention will be a number of ancillary meetings. These will include a special symposium on home health care, a session on medicine and religion, and a special conference on school health. On June 27, a panel of experts will analyze the potential role of acupuncture in the practice of medicine.

Some 250 individual scientific exhibits, grouped into 24 specialty areas, will be presented; and special screenings of the latest productions in medical motion pictures—films that teach new techniques of surgery and therapy—will be presented.

Contact: AMA, 535 N. Dearborn St., Chicago 60610.

COMING MEETINGS

CURRENT MEETINGS IN TEXAS

AMERICAN HEART ASSOCIATION, Texas Affiliate, Inc., in cooperation with The University of Texas Southwestern Medical School and Texas Nurses Association, announces the 1973 Scientific Sessions and Nurses Institute to be held at the Marriott Motor Inn, Stemmons Expressway, Dallas, June 20-23. The Nurses Institute will feature "Everything Your Patient Wanted to Know About Cardiovascular Surgery and Was Afraid to Ask" Wednesday, June 20. The scientific sessions will begin Thursday, June 21, and continue through Saturday. "Problems of Patients with Clinical Heart Disease" will be the theme of the sessions featuring talks by Dr. Carlton Chapman, dean of Dartmouth Medical College, Hanover, NH; and Dr. E. Eric Muirhead, Memphis, Tenn. Also featured will be presentations on "Management of Malignant Hypertension"; "Fate of Prosthetic Valves and Newer Concepts"; "Paroxysmal Arrhythmias"; and "Present Your Problem Workshops." Contact: Dale R. Stringfellow, American Heart Association, Texas Affiliate, Inc., PO Box 9928, Austin 78766, Prog. Dir.

For other courses and symposiums, see Continuing Education Courses on p. 53.

AMERICAN COLLEGE OF OBSTETRICIANS AND GYNECOLOGISTS 21st annual clinical meeting will be held May 21-24 at the Americana Hotel, Bal Harbour, Fla. This meeting will feature formal papers, reports on current investigations, and specialty meetings on community health, maternal and perinatal medicine, oncology, pediatric and adolescent gynecology, and psychosomatic obstetrics and gynecology. There will be two "Great Debates," breakfast conferences and a full motion picture program. New this year are postgraduate courses throughout the meeting as well as preceding it, and informal curbstone consultations with two authorities on each subject. Also new are self-assessment tests in Clinical Obstetrics and Clinical Gynecology. Registration fee for nonmembers, $125.00. Contact: Donald F. Richardson, American College of Obstetricians and Gynecologists, One East Wacker Dr., Chicago 60601, Assoc. Dir.

AMERICAN GASTROENTEROLOGICAL ASSOCIATION'S Digestive Disease Week Conference will be held in New York City, May 20-26, at the Americana Hotel. The staggering impact of digestive disease on the lives of 13 million Americans will be the major theme of the conference. According to Dr. Henry D. Janowitz, president of the 75-year-old professional organization, the 1973 conference will encompass all medical and surgical specialties relating to digestive diseases, and will reflect work which has been accomplished in the field over the past year, including reports in the areas of research, education, patient care, scientific communication, and teaching. Several of the reports will include accounts of significant scientific breakthroughs relating to the dissolution of gallstones by medical (rather than surgical) means, treatment of cancer of the colon, and visualization of the pancreas without surgery. The hepatitis virus in shellfish; new therapy for treatment of heartburn, and the subject of alcohol and the liver will also be covered in depth. The conference is a result of a pooling of efforts by the AGA, the American Association for the Study of Liver Diseases, the American Society for Gastrointestinal Endoscopy, the Gastroenterology Research Group, and the Society for Surgery of the Alimentary Tract. Contact: Charles B. Slack, 6900 Grove Rd., Thorofare, NJ 08086, Exec. Sec.

AMERICAN PHYSICAL THERAPY ASSOCIATION has scheduled its 1973 Annual Conference June 24-29, at the Shamrock Hilton Hotel in Houston. One of the highlights of the conference will be the scientific exhibits. Scientific exhibit awards will be given and are judged in four categories: national and local organizations, and student and chapter exhibits. Applications for scientific exhibit space may be obtained from Frank Allender, APTA, 1156 15th Street, NW, Washington, DC 20005. Two instructional courses will be held on June 24. "Psychosocial Aspects of Behavior" will be presented by Dr. William Glasser, Los Angeles. The second course, "Systems Analysis Approaches for Physical Therapists," will be presented in three sections: "The Educational Aspect," organized by LTC Sami El-Beheri and LTC Jonah Hymes, US Army Medical Field Service School, Fort Sam Houston; "The Patient Care Aspect," organized by Miriam Partridge, director, Physical Therapy Service, Texas Institute for Rehabilitation and Research, Houston; and "The Research Aspect," organized by Walter Schneiderwind, deputy chief of physical therapy, US Public Health Service Outpatient Service, New York City. Tours of Houston, the Astrodome, and L. B. Johnson Space Center are also scheduled during the conference. Following the conference in Houston, the APTA is sponsoring a reconvened meeting in Mexico. Tours of Mexico City, Acapulco, and the famous silver-mining town of Taxco are included in the Mexican excursion. Contact: Royce P. Noland, APTA, 1156 16th St., NW, Washington, DC 20005, Exec. Dir.

AMERICAN PROCTOLOGIC SOCIETY announces its 72nd Annual Meeting at the Detroit Hilton Hotel, June 10-14. Presentations during the scientific session will include: "Newer Concepts Applicable to the Management of Colon and Rectal Cancer"; "Enzymes and the Prediction of Response of Colon Tumors to Chemotherapy"; "Epidemiologic Considerations in Cancer of the Colon and Rectum"; "Juvenile Polyps of the Colon"; Actinomycosis of the Colon"; "Surgical Pitfalls in Ulcerative Colitis"; "Surgery for Toxic Megacolon"; "Trends in Therapy of Metastatic Colon Carcinoma of the Liver—Preliminary Report"; "Internal Hemorrhoidectomy by Elastic Ligation"; and "Hemangiomas of the Anus and Rectum." The scientific sessions are open to all members of the medical profession. Attendance at all social events is limited to members and guests who have registered and paid the assessment. Contact: Harriette Gibson, 320 W. Lafayette, Detroit 48226, Adm. Sec.

AMERICAN RHEUMATISM ASSOCIATION Section of The Arthritis Foundation announces its 37th annual Scientific Meeting at the Century Plaza Hotel, Los Angeles, Calif. on June 6-8. Three half-day scientific workshops will be conducted Wednesday, June 6. The morning workshop is on "Lymphocytes as Mediators of Tissue Injury." Two concurrent workshops in the afternoon are on "The Alternate Pathway of Complement Activation" and "Crystal-Induced Inflammation—Molecular, Cellular and Clinical Aspects." Registration is limited and the fee for each workshop is $25. Also on June 6, six two-hour clinical postgraduate seminars on arthritis, directed to practicing physicians, will be held concurrently in groups of two. The subjects to be covered are: "Radiology of Degenerative Joint Disease and Arthrography"; "The Painful Foot"; "Causes, Considerations and Conservative Care of the Arthritic Knee"; "Intraarticular Injection Therapy"; "The Painful Shoulder"; and "Rheumatologic Manifestations of Hematologic Disease." Registration is limited, and the fee for each seminar is $20. A general registration fee of $10 will also be charged. Contact: Miss Lynn Bonfiglio, American Rheumatism Association Section, The Arthritis Foundation, 1212 Ave. of the Americas, New York 10036, Exec. Sec.

AMERICAN THORACIC SOCIETY will hold its annual meeting at the Statler Hilton Hotel in New York City May 20-23 in conjunction with the American Lung Association. Featured scientific sessions will include the following subjects: "The Present Role of Inhalation Therapy in Pulmonary Medicine—Pro and Con," "Microbiology and Immunology," "Frontiers of Lung Research," "The Use of Skin Tests and Serologic Tests in Histoplasmosis, Coccidioidomycosis and Blastomycosis, 1973," and "New Concepts in Lung Pathology." There will also be a workshop on some aspects of the non-respiratory functions of the lung, sponsored by the National Heart and Lung Institute. Contact: American Thoracic Society, 1740 Broadway, New York 10019.

OLDER AMERICANS RESOURCES AND SERVICES PROGRAM of the Duke University Center for the Study of Aging and Human Development will present a conference to be held June 7-9 on the campus of Duke University in Durham, NC. The program will focus on four areas: The Paradox of Successful Aging; The Clinical, Artistic, and Mental Health Views of Successful Aging; Models of Successful Aging; and Helping People to Age Successfully. The program will consist of plenary sessions, workshops, and informal discussions. Speakers will be nationally prominent leaders in the field of aging, prominent older persons, and Duke University leaders. Scientists, and educators in the field of aging, gerontologists, news media representatives, and laymen interested in the topic of the conference are invited. Contact: Mrs. Carol Pauk, Box 2914, Duke University Medical Center, Durham, NC 27710.

Sally's back in sew biz! After an arthritic flare-up.

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Each capsule contains:
100 mg. phenylbutazone USP
100 mg. dried aluminum hydroxide gel USP
150 mg. magnesium trisilicate USP

If it doesn't work in a week, forget it.

Important Note: This drug is not a simple analgesic. Do not administer casually. Carefully evaluate patients before starting treatment and keep them under close supervision. Obtain a detailed history, and complete physical and laboratory examination (complete hemogram, urinalysis, etc.) before prescribing and at frequent intervals thereafter. Carefully select patients, avoiding those responsive to routine measures, contraindicated patients or those who cannot be observed frequently. Warn patients not to exceed recommended dosage. Short-term relief of severe symptoms with the smallest possible dosage is the goal of therapy. Dosage should be taken with meals or a full glass of milk. Substitute aika capsules for tablets if dyspeptic symptoms occur. Patients should discontinue the drug and report immediately any sign of: fever, sore throat, oral lesions (symptoms of blood dyscrasia); dyspepsia, epigastric pain, symptoms of anemia, black or tarry stools or other evidence of intestinal ulceration or hemorrhage, skin reactions, significant weight gain or edema. A one-week trial period is adequate. Discontinue in the absence of a favorable response. Restrict treatment periods to one week in patients over sixty.

Indications: Acute gouty arthritis, rheumatoid arthritis, rheumatoid spondylitis

Contraindications: Children 14 years or less; senile patients; history or symptoms of G.I. inflammation or ulceration including severe, recurrent or persistent dyspepsia; history or presence of drug allergy; blood dyscrasias; renal, hepatic or cardiac dysfunction; hypertension; thyroid disease; systemic edema; stomatitis and salivary gland enlargement due to the drug; polymyalgia rheumatica and temporal arteritis; patients receiving other potent chemotherapeutic agents, or long-term anticoagulant therapy

Warnings: Age, weight, dosage, duration of therapy, existence of concomitant diseases, and concurrent potent chemotherapy affect incidence of toxic reactions. Carefully instruct and observe the individual patient, especially the aging (forty years and over) who have increased susceptibility to the toxicity of the drug. Use lowest effective dosage. Weigh initially unpredictable benefits against potential risk of severe, even fatal, reactions. The disease condition itself is unaltered by the drug. Use with caution in first trimester of pregnancy and in nursing mothers. Drug may appear in cord blood and breast milk. Serious, even fatal, blood dyscrasias, including aplastic anemia, may occur suddenly despite regular hemograms, and may become manifest days or weeks after cessation of drug. Any significant change in total white count, relative decrease in granulocytes, appearance of immature forms, or fall in hematocrit should signal immediate cessation of therapy and complete hematologic investigation. Unexplained bleeding involving CNS, adrenals, and G.I. tract has occurred The drug may potentiate action of insulin, sulfonylurea, and sulfonamide-type agents. Carefully observe patients taking these agents. Nontoxic and toxic goiters and myxedema have been reported (the drug reduces iodine uptake by the thyroid). Blurred vision can be a significant toxic symptom worthy of a complete ophthalmological examination. Swelling of ankles or face in patients under sixty may be prevented by reducing dosage. If edema occurs in patients over sixty, discontinue drug.

Precautions: The following should be accomplished at regular intervals: Careful detailed history for disease being treated and detection of earliest signs of adverse reactions; complete physical examination including check of patient's weight; complete weekly (especially for the aging) or an every two week blood check; pertinent laboratory studies. Caution patients about participating in activity requiring alertness and coordination, as driving a car, etc. Cases of leukemia have been reported in patients with a history of short- and long-term therapy. The majority of these patients were over forty. Remember that arthritic-type pains can be the presenting symptom of leukemia.

Adverse Reactions: This is a potent drug; its misuse can lead to serious results. Review detailed information before beginning therapy. Ulcerative esophagitis, acute and reactivated gastric and duodenal ulcer with perforation and hemorrhage, ulceration and perforation of large bowel, occult G.I. bleeding with anemia, gastritis, epigastric pain, hematemesis, dyspepsia, nausea, vomiting and diarrhea, abdominal distention, agranulocytosis, aplastic anemia, hemolytic anemia, anemia due to blood loss including occult G.I bleeding, thrombocytopenia, pancytopenia, leukemia, leukopenia, bone marrow depression, sodium and chloride retention, water retention and edema, plasma dilution, respiratory alkalosis, metabolic acidosis, fatal and nonfatal hepatitis (cholestasis may or may not be prominent), petechiae, purpura without thrombocytopenia, toxic pruritus, erythema nodosum, erythema multiforme, Stevens-Johnson syndrome, Lyell's syndrome (toxic necrotizing epidermolysis), exfoliative dermatitis, serum sickness, hypersensitivity angiitis (polyarteritis), anaphylactic shock, urticaria, arthralgia, fever, rashes (all allergic reactions require prompt and permanent withdrawal of the drug), proteinuria, hematuria, oliguria, anuria, renal failure with azotemia, glomerulonephritis, acute tubular necrosis, nephrotic syndrome, bilateral renal cortical necrosis, renal stones, ureteral obstruction with uric acid crystals due to uricosuric action of drug, impaired renal function, cardiac decompensation, hypertension, pericarditis, diffuse interstitial myocarditis with muscle necrosis, perivascular granulomata, aggravation of temporal arteritis in patients with polymyalgia rheumatica, optic neuritis, blurred vision, retinal hemorrhage, toxic amblyopia, retinal detachment, hearing loss, hyperglycemia, thyroid hyperplasia, toxic goiter, association of hyperthyroidism and hypothyroidism (causal relationship not established), agitation, confusional states, lethargy; CNS reactions associated with overdosage, including convulsions, euphoria, psychosis, depression, headaches, hallucinations, giddiness, vertigo, coma, hyperventilation, insomnia; ulcerative stomatitis, salivary gland enlargement. (B)98-146-070-G

Serious side effects do occur. Select patients carefully (particularly the elderly) and follow them closely in line with the drug's precautions, warnings, contraindications and adverse reactions.

For complete details, including dosage, please see full prescribing information

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BU 8615-9

What should a medication for sleep be expected to provide?

Before prescribing Dalmane (flurazepam HCl), please consult Complete Product Information, a summary of which follows:

Indications: Effective in all types of insomnia characterized by difficulty in falling asleep, frequent nocturnal awakenings and/or early morning awakening; in patients with recurring insomnia or poor sleeping habits; and in acute or chronic medical situations requiring restful sleep. Since insomnia is often transient and intermittent, prolonged administration is generally not necessary or recommended.

Contraindications: Known hypersensitivity to flurazepam HCl.

Warnings: Caution patients about possible combined effects with alcohol and other CNS depressants. Caution against hazardous occupations requiring complete mental alertness (*e.g.*, operating machinery, driving). Use in women who are or may become pregnant only when potential benefits have been weighed against possible hazards. Not recommended for use in persons under 15 years of age. Though physical and psychological dependence have not been reported on recommended doses, use caution in administering to addiction-prone individuals or those who might increase dosage.

Precautions: In elderly and debilitated, initial dosage should be limited to 15 mg to preclude oversedation, dizziness and/or ataxia. If combined with other drugs having hypnotic or CNS-depressant effects, consider potential additive effects. Employ usual precautions in patients who are severely depressed, or with

Sleep for 7 to 8 hours without need to repeat dosage during the night

No sleep medication has been as rigorously evaluated in the sleep research laboratory as Dalmane. Insomnia patients given one 30-mg capsule of Dalmane at bedtime, on average: fell asleep within 17 minutes, had fewer nighttime awakenings, spent less time awake after sleep onset, and slept for 7 to 8 hours with no need to repeat dosage during the night.

Sleep with consistency

Dalmane (flurazepam HCl) has been shown to be consistently effective even during consecutive nights of administration. Thus there is little likelihood for the need to increase dosage to maintain therapeutic effect.

Dalmane is in a class by itself. Not a narcotic, barbiturate or methaqualone, Dalmane is the only available benzodiazepine specifically indicated for insomnia.

Sleep with relative safety

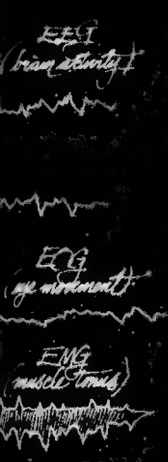
Chronic tolerance studies have confirmed the relative safety of Dalmane (flurazepam HCl); no depression of cardiac or respiratory function was noted in patients administered recommended or higher doses for as long as 90 consecutive nights. In most instances when adverse reactions were reported they were mild, infrequent and seldom required discontinuance of therapy. Morning "hang-over" with Dalmane has been relatively infrequent. Dizziness, drowsiness, lightheadedness and the like have been the side effects noted most frequently, particularly in the elderly and debilitated. (An initial dose of Dalmane 15 mg should be prescribed for these patients.)

When your evaluation of insomnia indicates the need for a sleep medication, consider Dalmane—a single entity agent proved effective and relatively safe for relief of insomnia.

DALMANE®
(flurazepam HCl)

When restful sleep is indicated

One 30-mg capsule *h.s.*—usual adult dosage
(15 mg may suffice in some patients).
One 15-mg capsule *h.s.*—initial dosage for elderly or debilitated patients.



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latent depression or suicidal tendencies. Periodic blood counts and liver and kidney function tests are advised during repeated therapy. Observe usual precautions in presence of impaired renal or hepatic function.

Adverse Reactions: Dizziness, drowsiness, lightheadedness, staggering, ataxia and falling have occurred, particularly in elderly or debilitated patients. Severe sedation, lethargy, disorientation and coma, probably indicative of drug intolerance or overdosage, have been reported. Also reported were headache, heartburn, upset stomach, nausea, vomiting, diarrhea, constipation, GI pain, nervousness, talkativeness, apprehension, irritability, weakness, palpitations, chest pains, body and joint pains and GU complaints. There have also been rare occurrences of sweating, flushes, difficulty in focusing, blurred vision, burning eyes, faintness, hypotension, shortness of breath, pruritus, skin rash, dry mouth, bitter taste, excessive salivation, anorexia, euphoria, depression, slurred speech, confusion, restlessness, hallucinations, and elevated SGOT, SGPT, total and direct bilirubins and alkaline phosphatase. Paradoxical reactions, *e.g.*, excitement, stimulation and hyperactivity, have also been reported in rare instances.

Dosage: Individualize for maximum beneficial effect. *Adults*: 30 mg usual dosage; 15 mg may suffice in some patients. *Elderly or debilitated patients*: 15 mg initially until response is determined.

Supplied: Capsules containing 15 mg or 30 mg flurazepam HCl.

Opinion & Dialogue

"Prescription drugs – who should determine the maker?"

Dispenser of Medicine

Clifton J. Latiolais
President
American Pharmaceutical Association

"Too many doctors are indifferent to the economic consequences of their decisions." So stated a recent issue of *Medical News Report* (December 4, 1972), an independent weekly newsletter published by former AMA Chief Executive F. J. L. Blasingame, M.D.

Doctor, are you indifferent...?

In discussing an anticipated increase in Blue Shield rates, Dr. Blasingame's newsletter had this to say:

"In general, it can be said, MD's have given the impression they are not particularly concerned with the increase in cost of health care to their patients...

"True, an MD's training is primarily scientific, but in the real world of practice, all of his scientific decisions have a price tag, or an economic impact. The economics of health care beckon the practitioner's attention. Concern for economics of medicine

Maker of Medicine

C. Joseph Stetler
President
Pharmaceutical Manufacturers Association

When the pharmacist recommends that a drug product other than the one ordered be dispensed, the prescriber invariably permits the change when he feels the best interests of the patient will be served.

Shortcomings of Pro-Substitution Argument

The fact remains that it is necessary for the prescriber to know that the change is being contemplated, and to be in a position to consent or demur. Without that opportunity, the unilateral decision of the pharmacist, made in the absence of clinical knowledge of the patient, could expose him to needless risks, and in addition, jeopardize the relationship between the professions of Pharmacy and Medicine. In my view, there is nothing in the pro-substitution argument that offsets these risks.

The Issue of Drug Knowledge

Substitution advocates claim that the primary justification for changing the rules is the desire to better utilize pharmacists' knowledge about drugs. Yet the pharmacist's task to keep current on the entire field of drug therapy, to some degree, puts him at a disadvantage. Most often, a practicing physician will need expert knowledge of no more than 25

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should be an obligation of medical practice...

"Medical societies ought to conduct continuing campaigns to point out the substantial savings that could be realized thru deductible insurance and protection for catastrophic illness. At the very least, they should, in the patients' interest, question the tactics of any insurance organization that raises health care costs by forcing policyholders to buy insurance they may not need or want and probably won't ever use.

"Too many doctors are indifferent to the economic consequences of their decisions. Too many, for example, habitually hospitalize patients for the convenience of the MD. It's nonsense to deny such habits exist...

"Doctors, thru their medical societies, have unhesitatingly appealed to their patients for support in the fight against government interference with the private practice of medicine. And the public in the past has responded. It's time the American Medical Association and state and local medical societies paid off the debt by decisive action to hold down the cost of medical care."

Cost of Drugs

Insurance rates and hospital charges are only two factors in health care costs. The cost of drugs—both prescription and nonprescription—is another.

And when it comes to drug costs, the nation's pharmacists *are concerned*. Through their national professional society, the American Pharmaceutical Association, pharmacists are advising the public to use nonprescription medication cautiously and conservatively, and to seek the advice of their pharmacist before selecting or purchasing such drugs.

Outdated Laws

The pharmacist also is aware that when it comes to prescription drugs, often he has an even greater opportunity to reduce the cost to the patient—with no sacrifice in the quality of the medication dispensed. But in many states, outdated and antiquated laws prevent the pharmacist from engaging in drug product selection. "Drug product selection" simply means that the pharmacist functions in the patient's interest by consciously choosing, from the multiple brands available, a low-cost quality brand of the specific drug to be dispensed in response to the physician's prescription order.

Much *misinformation* has been purposely spread by those who stand to gain financially by maintaining high drug costs to the public. An endless stream of propaganda has emanated from the drug industry in an effort to persuade the medical profession that these so-called anti-substitution laws should be retained. And as long as these laws are retained, the drug industry will continue its current marketing practices which contribute unnecessarily to high drug costs to patients. These practices also are inviting government agencies to expand their restrictive controls on physicians and pharmacists.

APhA Efforts

As pharmacists, we are concerned about health care costs. We hope that every physician shares our concern on this vital issue, and will give his personal support to the constructive efforts APhA has undertaken in the interest of all patients.

(For a complete discussion of drug product selection, you are invited to request a free copy of the "White Paper on the Pharmacist's Role in Product Selection" from: American Pharmaceutical Association, 2215 Constitution Avenue, N.W., Washington, D.C. 20037.)

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or 30 drugs that he selects to treat the majority of conditions encountered in his practice. Moreover, the physician's choice of a specific brand is based on his knowledge of the patient's medical history and current condition, and his experiences with the particular manufacturer's product.

Some substitution proponents have argued that the dispensing of a prescription is a simple two-party transaction between the pharmacist and the patient, and that a substituting pharmacist may avoid even a technical breach of contract by simply notifying the patient that he is making the substitution. I would judge that few courts would be sympathetic toward a pharmacist who substituted without physician approval and who undertook a legal defense that seeks to make the patient responsible for the pharmacist's actions.

Reduced Prescription Prices?

Substitution advocates are suggesting to the consumer, and particularly the consumer activist, that reduced prescription prices could follow legalization of substitution. We have seen absolutely no evidence to justify this claim. To the contrary, experience in Alberta, Canada, where substitution is authorized, suggests the opposite.

Many pharmacists understandably are concerned about the cost of maintaining multiple stocks of similar products. While there is no doubt that inventory costs rise when additional brands are stocked, it would be interesting to know how much they rise, and how many pharmacists actually stock *all* brands—of, say, ampicillin or tetracycline—or how long they keep "slow moving" products on their shelves before they are returned for credit. To ask that the industry eliminate multiple sources is to ask competitors to stop competing.

Drug Substitution—A License for the Unethical

Anti-substitution repeal would favor "corner cutting" pharmacists and manufacturers. For them, free substitution would be not a right, but a license. As an aftermath, it is quite likely that the confidence of both physicians and patients in the profession of Pharmacy would be eroded, as revelations about the unconscionable behavior of an undisciplined few were magnified in the press or in professional circles.

Summary

In short, what the American Pharmaceutical Association advocates as a broad-spectrum panacea looks to us to be not only a minority view (advocacy of substitution is by no means a uniform policy in Pharmacy), but also an extraordinarily costly and ineffective remedy, whose side effects are odious. We believe (1) that an impressive majority of pharmacists prefer to work with Medicine and with industry, for the consumer, and for the general good, (2) that they seek the privilege to substitute when the patient might gain and when the patient's doctor agrees, and (3) that they seek to work for the resolution of genuine grievances openly and professionally.

(For amplification of PMA views, please write for our booklet, "The Medications Physicians Prescribe: Who Shall Determine the Source?" It is available from: Pharmaceutical Manufacturers Association, 1155 Fifteenth Street, N.W., Washington, D.C. 20005.)

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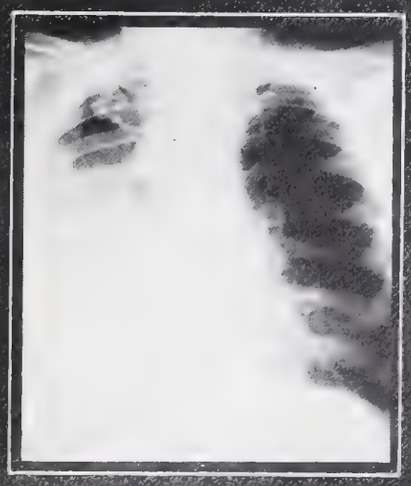

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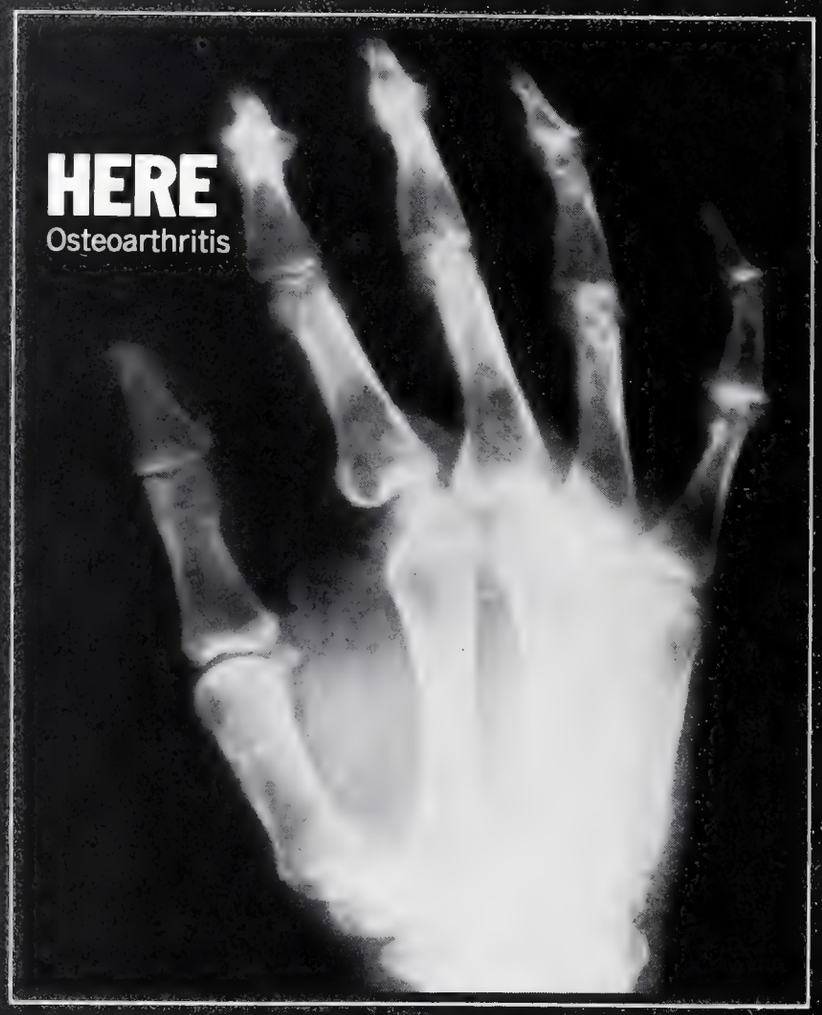

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ALSO IN JUNE

AMERICAN DIABETES ASSOCIATION, Chicago, June 23-24, 1973. J. Richard Connelly, 18 East 48th St., New York 10017, Exec. Dir.

AMERICAN ELECTROENCEPHALOGRAPHIC SOCIETY, Boston, June 14-16, 1973. Margaret Henry, 36391 Maple Grove Rd., Willoughby Hills, Ohio 44094, Exec. Sec.

AMERICAN NEUROLOGICAL ASSOCIATION, Montreal, June 11-13, 1973. Dr. Samuel A. Trufant, Cincinnati General Hospital, Cincinnati 45229, Sec.

AMERICAN ASSOCIATION OF PLASTIC SURGEONS, New York City, June 24-27, 1973. Dr. Nicholas Georgiade, Duke University Medical Center, Box 3098, Durham, NC 27710, Sec.

AMERICAN THERMOGRAPHIC SOCIETY, New York City, June 23-24, 1973. Ms. Elizabeth A. Winsor, 4041 Wilshire Blvd., Los Angeles 90010, Exec. Sec.

ENDOCRINE SOCIETY, Chicago, June 20-22, 1973. Mrs. Marcella M. Branch, 1211 N. Shartel, Oklahoma City 73103, Exec. Sec.

SOUTHERN OB-GYN SEMINAR, Asheville, NC, July 22-27, 1973. Dr. George T. Schneider, 1514 Jefferson Hwy., New Orleans, La. 70121, Sec.

■ TEXAS PHARMACEUTICAL ASSOCIATION, San Antonio, June 20-23, 1973. Luther R. Parker, PO Box 4487, Austin 78701, Exec. Officer.

JULY

AMERICAN ACADEMY OF FAMILY PHYSICIANS, NEW MEXICO CHAPTER, 16th Annual Ruidoso Summer Clinic, Ruidoso, NM, July 16-19, 1973. Bob Reid, PO Box 456, Sunland Park, NM 88063, Exec. Sec.

FLYING PHYSICIANS ASSOCIATION, San Diego, July 22-27, 1973. Albert Carriere, 801 Green Bay Rd., Lake Bluff, Ill. 60044, Exec. Officer.

ROCKY MOUNTAIN CANCER CONFERENCE, Denver, July 13-14, 1973. F. C. Schmidt, 1764 Gilpin, Denver 80218, Exec. V.-Pres.

AUGUST

■ AMERICAN CANCER SOCIETY, TEXAS DIVISION, Dallas, Aug. 23-24, 1973. Curt W. Reimann, 5100 Ridge Oak, Austin 78731, Exec. V.-Pres.

SEPTEMBER

■ AMERICAN ACADEMY OF OPHTHALMOLOGY AND OTOLARYNGOLOGY, Dallas, Sept. 16-20, 1973. Dr. C. M. Kos, 15 Second St. SW, Rochester, Minn. 55901.

AMERICAN ASSOCIATION OF MEDICAL CLINICS, Los Angeles, Sept. 16-20, 1973. Dr. G. Stanley Custer, 630 S. Central Ave., Marshfield, Wisc. 54449, Acting Exec. Dir.

AMERICAN CANCER SOCIETY, Second National Conference on Cancer of the Colon and Rectum, Bal Harbour, Fla., Sept. 27-29, 1973. Dr. Sidney L. Arje, 219 E. 42nd St., New York 10017.

AMERICAN FRACTURE ASSOCIATION, Montreal, Sept. 5-9, 1973. Dr. H. W. Wellmerling, 600 Livingston Bldg., Bloomington, Ill. 62058, Exec. Officer.

AMERICAN MEDICAL ASSOCIATION, 33rd Annual AMA Congress on Occupational Health, Philadelphia, Sept. 17-18, 1973. AMA, 535 N. Dearborn St., Chicago, Ill. 60610.

AMERICAN ROENTGEN RAY SOCIETY, Montreal, Sept. 25-28, 1973. Dr. Ted F. Leigh, Emory University Clinic, Atlanta 30322, Exec. Sec.

INTERNATIONAL MEDICAL CONGRESS, Fourth International Conference on Birth Defects, Vienna, Austria, Sept. 2-8, 1973. Richard C. Gedney, 1275 Mamaroneck Ave., White Plains, NY 10605, Exec. Sec.

■ PANHANDLE DISTRICT MEDICAL SOCIETY, Lubbock, Sept. 15, 1973. Carlie Umphres, PO Box 3276, Amarillo 79106, Exec. Officer.

■ TEXAS PEDIATRIC SOCIETY, Austin, Sept. 1973. Dr. Pat A. Cato, 1015 E. 32nd St., Austin 78705, Sec.

OCTOBER

AMERICAN ACADEMY OF FAMILY PHYSICIANS, Denver, Oct. 1-4, 1973. Roger Tusken, Volker Blvd. at Brookside, Kansas City, Mo. 64112, Exec. Dir.

AMERICAN ACADEMY OF PHYSICAL MEDICINE AND REHABILITATION, Washington, DC, Oct. 21-26, 1973. Creston Herold, 30 N. Michigan Ave., Chicago 60602, Exec. Officer.

AMERICAN ASSOCIATION FOR LABORATORY ANIMAL SCIENCE, Bal Harbour, Fla., Oct. 1-5, 1973. Joseph J. Garvey, 2317 W. Jefferson, Suite 208, Joliet, Ill. 60435, Exec. Sec.

AMERICAN ASSOCIATION OF MEDICAL ASSISTANTS, Washington, DC, Oct. 23-27, 1973. Dene R. Murray, One E. Wacker, No. 1510, Chicago 60601, Exec. Dir.

AMERICAN BOARD OF FAMILY PRACTICE, Oct. 20-21, 1973. Dr. Nicholas J. Pisacano, University of Kentucky Medical Center, Annex No. 2, Rm. 229, Lexington 40506, Sec.

AMERICAN COLLEGE OF CHEST PHYSICIANS, Toronto, Ontario, Oct. 21-25, 1973. Dr. Alfred Soffer, 112 East Chestnut, Chicago 60611, Exec. Dir.

AMERICAN COLLEGE OF GASTROENTEROLOGY, Los Angeles, Oct. 21-27. Daniel Weiss, 299 Broadway, New York 10007, Exec. Sec.

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AMERICAN CONGRESS OF REHABILITATION MEDICINE, Washington, DC, Oct. 21-26, 1973. Creston Herold, 30 N. Michigan Ave., Chicago 60602, Exec. Officer.

AMERICAN MEDICAL ASSOCIATION, 14th National Conference on Physicians and Schools, Chicago, Oct. 4-6, 1973. AMA, 535 N. Dearborn St., Chicago 60610.

AMERICAN SOCIETY OF ANESTHESIOLOGISTS, San Francisco, Oct. 7-11, 1973. John W. Andes, 515 Busse Highway, Park Ridge, Ill. 60068, Exec. Sec.

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ASSOCIATION OF LIFE INSURANCE MEDICAL DIRECTORS OF AMERICA, New York City, Oct. 14-17, 1973. Dr. Athur E. Brown, 501 Boylston St., Boston 02117, Sec.

CIVIL AVIATION MEDICAL ASSOCIATION, Mexico, Oct. 22-25, 1973. Dr. Luis A. Amezcuag, Ave. Progreso No. 186-101, Mexico 18, DF, Mex., Chrmn.

SOUTHERN PSYCHIATRIC ASSOCIATION, Miami, Oct. 6-9, 1973. Annette S. Boutwell, PO Box 10387, Raleigh, NC 27605, Exec. Sec.

■ **TEXAS MEDICAL ASSOCIATION, Austin, Oct. 5-7, 1973. C. Lincoln Williston, 1801 N. Lamar Blvd., Austin 78701, Exec. Sec.**

WORLD CONFERENCE ON THE HUMAN ENVIRONMENT, Yugoslavia, Oct. 23-26, 1973. Dr. Gerald D. Dorman, 10 Columbus Circle, New York 10019.

WORLD MEDICAL ASSOCIATION, Munich, Germany, Oct. 14-20, 1973. M. L. Natwick, 10 Columbus Circle, New York 10019, Exec. Sec.

NOVEMBER

AMERICAN ASSOCIATION OF BLOOD BANKS, Bal Harbour, Fla., Nov. 11-16, 1973. Lois J. James, 30 N. Michigan Ave., Chicago 60602, Cen. Office Mgr.

■ AMERICAN ASSOCIATION FOR CLINICAL IMMUNOLOGY AND ALLERGY, San Antonio, Nov. 29-Dec. 2, 1973. Dr. Robert J. Brennan, 3471 N. Federal Hwy., Ft. Lauderdale, Fla. 33306, Prog. Chrmn.

INTERNATIONAL CONGRESS OF GYNECOLOGICAL LAPAROSCOPY, New Orleans, Nov. 17-20, 1973. Dr. Jordan M. Phillips, 11239 S. Lakewood Blvd., Downey, Calif. 90241.

■ SOUTHERN MEDICAL ASSOCIATION, San Antonio, Nov. 11-14, 1973. Robert F. Butts, 2601 Highland Ave., Birmingham, Ala., Exec. Dir.

■ TEXAS ACADEMY OF FAMILY PHYSICIANS, San Antonio, Nov. 5-7, 1973. Donald C. Jackson, 1905 N. Lamar Blvd., Austin 78705, Exec. Officer.

■ TEXAS DERMATOLOGICAL SOCIETY, San Antonio, Nov. 12-15, 1973. Dr. Eugene P. Schoch, Jr., 3A Medical Arts Sq., Austin 78705, Sec.

DECEMBER

AMERICAN CANCER SOCIETY, INC., National Conference on Virology and Imunology in Human Cancer, New York City, Nov. 29-Dec. 1, 1973. Dr. Sidney L. Arje, American Cancer Society, Inc., 219 E. 42nd St., New York 10017.

AMERICAN MEDICAL ASSOCIATION, clinical convention, Anaheim, Calif., Dec. 1-5, 1973. AMA, 535 N. Dearborn St., Chicago 60610.

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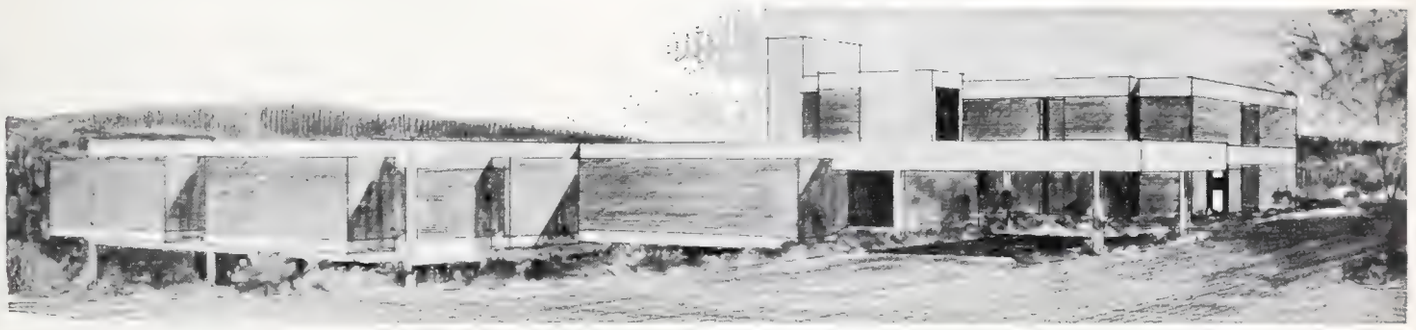

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Warnings: Safety in pregnancy not established. Do not use for group A beta-hemolytic streptococcal infections, as sequelae (rheumatic fever, glomerulonephritis) are not prevented. Deaths reported from hypersensitivity reactions, agranulocytosis, aplastic anemia and other blood dyscrasias. Sore throat, fever, pallor, purpura or jaundice may be early indications of serious blood disorders. CBC and urinalysis with careful microscopic examination should be performed frequently.

Precautions: Use cautiously in patients with impaired renal or hepatic function, severe allergy or bronchial asthma. Hemolysis, frequently dose related, may occur in glucose-6-phosphate dehydrogenase-deficient patients. Maintain adequate fluid intake to prevent crystalluria and stone formation.

Adverse Reactions: *Blood dyscrasias:* Agranulocytosis, aplastic anemia, thrombocytopenia, leukopenia, hemolytic anemia, purpura, hypoprothrombinemia and methemoglobinemia; *Allergic reactions:* Erythema multiforme (Stevens-Johnson syndrome), generalized skin eruptions, epidermal necrolysis, urticaria, serum sickness, pruritus, exfoliative dermatitis, anaphylactoid reactions, periorbital edema, conjunctival and scleral injection, photosensitization, arthralgia and allergic myocarditis; *Gastrointestinal reactions:* Nausea, emesis, abdominal pains, hepatitis, diarrhea, anorexia, pancreatitis and stomatitis; *C.N.S. reactions:* Headache, peripheral neuritis, mental depression, convulsions, ataxia, hallucinations, tinnitus, vertigo and insomnia; *Miscellaneous reactions:* Drug fever, chills and toxic nephrosis with oliguria and anuria. Periarteritis nodosa and L.E. phenomenon have occurred. Due to certain chemical similarities with some goitrogens, diuretics (acetazolamide, thiazides) and oral hypoglycemic agents, sulfonamides have caused rare instances of goiter production, diuresis and hypoglycemia as well as thyroid malignancies in rats following long-term administration. Cross-sensitivity with these agents may exist.

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*Koch-Weser, J., *et al.: Arch. Intern. Med., 128*:399, 1971.

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The *title* should include the words most suitable for indexing the article in "Index Medicus," should stress the main point, and should be brief. Subtitles should not be connected grammatically with the main title.

The *author's names* and degrees should follow the title, and their mailing addresses should be listed at the end of the article.

The *text* should be narrative with complete sentences, *few abbreviations*, and logical subheading. For *spelling and usage* the editors follow "Dorland's Illustrated Medical Dictionary," 24th edition, and "Webster's Third New International Dictionary, Unabridged." *Quotations* must give credit to both author and source. A concise *introductory summary* is required.

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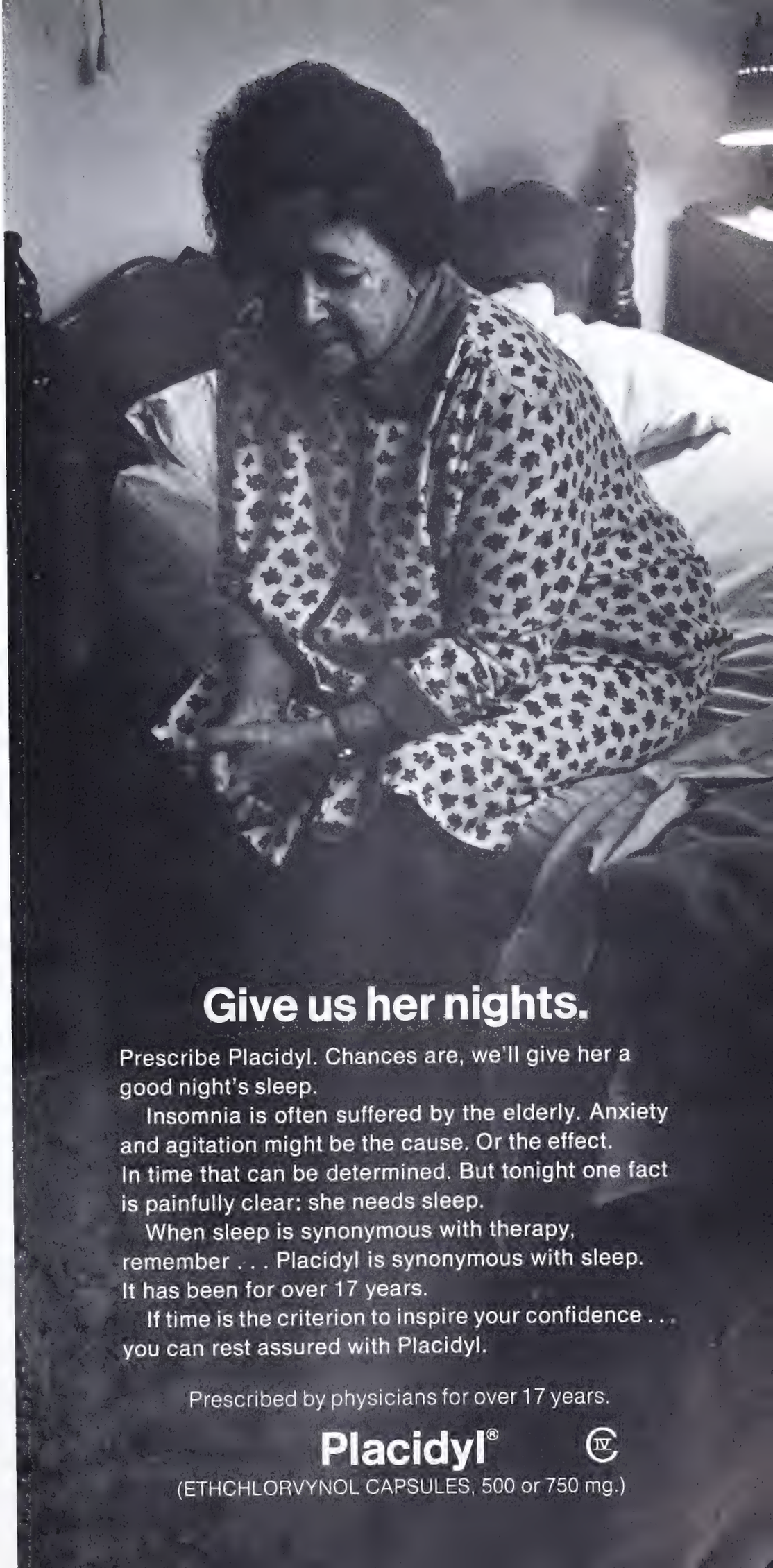

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(ETHCHLORVYNOL)

Brief Summary

Indications—Placidyl (ethchlorvynol) is indicated as short-term hypnotic therapy in the management of insomnia.

Contraindications—Drug hypersensitivity and porphyria.

Warnings—Not recommended during the first and second trimester of pregnancy. Caution patients of possible combined exaggerated effects with alcohol, barbiturates, tranquilizers or other CNS depressants. Exaggerated effects might result in blurring of vision, paralysis of accommodation and profound hypnosis. Caution patients concerning driving a motor vehicle, operating machinery, or other hazardous operations requiring alertness after taking the drug. ADMINISTER WITH CAUTION TO PATIENTS WITH SUICIDAL TENDENCIES AND DO NOT PRESCRIBE LARGE QUANTITIES OF THE DRUG. Adjustment of the dosage of oral anticoagulants might be necessary when beginning ethchlorvynol therapy, during therapy, or after stopping therapy. This drug is not recommended for use in children. PLACIDYL HAS THE POTENTIAL FOR THE DEVELOPMENT OF PSYCHOLOGICAL AND PHYSICAL DEPENDENCE. INSTANCES OF SEVERE WITHDRAWAL SYMPTOMS, INCLUDING CONVULSIONS AND DELIRIUM CLINICALLY SIMILAR TO THOSE SEEN WITH BARBITURATES, HAVE BEEN REPORTED IN PATIENTS TAKING REGULAR DOSES AS LOW AS 1000 MG. PER DAY OVER A PERIOD OF TIME WHEN THE DRUG WAS SUDDENLY DISCONTINUED. PROLONGED ADMINISTRATION OF THE DRUG IS NOT RECOMMENDED. Addiction-prone patients or those who are likely to increase dosages of the drug on their own initiative should be observed for evidence of signs or symptoms which may indicate possible early withdrawal or abstinence symptoms. Signs and symptoms associated with withdrawal and abstinence include unusual anxiety, tremor, ataxia, slurring of speech, memory loss, perceptual distortions, irritability, agitation and delirium. Other less well defined signs and symptoms, not necessarily due to withdrawal and abstinence, may include anorexia, nausea or vomiting, weakness, dizziness, sweating, muscle twitching and weight loss. Abrupt discontinuance of Placidyl following prolonged overdosage may result in convulsions and delirium.

Precautions—Toxic amblyopia has been reported with long-term continuous use of ethchlorvynol. Permanent visual defects have been observed, although amblyopia has improved after discontinuation of the drug. Drug dosage should be limited for elderly and debilitated patients to the smallest effective amount. If pain is present, this drug should only be given if insomnia persists after pain is controlled with analgesics. Caution is advised in prescribing the drug for patients who are being treated with either MAO inhibitors or antidepressants. Transient delirium has been reported with the combination of Placidyl and amitryptyline. Drug dosage should be reduced if prescribed for patients receiving MAO inhibitors or antidepressants. Caution should be exercised in patients with impaired hepatic or renal function. Patients who respond unpredictably to barbiturates or alcohol, or who exhibit excitement and release of inhibition in association with such agents, may also react in this way to Placidyl. Rarely, patients may exhibit symptoms suggestive of an unusual susceptibility to the drug; such as prolonged hypnosis, profound muscular weakness, excitement, hysteria, or syncope without marked hypotension. Transient giddiness or ataxia may occur.

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Precautions: Administer with caution to patients with incipient glaucoma, bladder neck obstruction or urinary bladder atony. Prolonged use of barbiturates may be habit-forming.

Side effects: Blurred vision, dry mouth, dysuria, and other atropine-like side effects may occur at high doses, but are only rarely noted at recommended dosages.

Dosage: *Adults:* One or two tablets three or four times daily. Dosage can be adjusted depending on diagnosis and severity of symptoms.

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to calm)

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Before deciding to make Valium (diazepam) part of your treatment plan, check on whether or not the patient is presently taking drugs and, if so, what his response has been. Along with the medical and social history, this information can help you determine initial dosage, the possibility of side effects and the ultimate prospects of success or failure.

While Valium can be a most helpful adjunct to your counseling, it should be prescribed only as long as excessive psychic tension persists and should be discontinued when you decide it has accomplished its therapeutic task. In general, when dosage guidelines are followed, Valium is well tolerated (see Dosage). For convenience it is available in 2-mg, 5-mg and 10-mg tablets.

Drowsiness, fatigue and ataxia have been the most commonly reported side effects.

Until response is determined, patients receiving Valium should be cautioned against engaging in hazardous occupations requiring complete mental alertness, such as driving or operating machinery.

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Before prescribing, please consult complete product information, a summary of which follows:

Indications: Tension and anxiety states; somatic complaints which are concomitants of emotional factors; psychoneurotic states manifested by tension, anxiety, apprehension, fatigue, depressive symptoms or agitation; symptomatic relief of acute agitation, tremor, delirium tremens and hallucinosis due to acute alcohol withdrawal; adjunctively in skeletal muscle spasm due to reflex spasm to local pathology, spasticity caused by upper motor neuron disorders, athetosis, stiff-man syndrome, convulsive disorders (not for sole therapy).

Contraindicated: Known hypersensitivity to the drug. Children under 6 months of age. Acute narrow angle glaucoma; may be used in patients with open angle glaucoma who are receiving appropriate therapy.

Warnings: Not of value in psychotic patients. Caution against hazardous occupations requiring complete mental alertness. When used adjunctively in convulsive disorders, possibility of increase in frequency and/or severity of grand mal seizures may require increased dosage of standard anticonvulsant medication; abrupt withdrawal may be associated with temporary increase in frequency and/or severity of seizures. Advise against simultaneous ingestion of alcohol and other CNS depressants. Withdrawal symptoms (similar to those with barbiturates and alcohol) have occurred following abrupt discontinuance (convulsions, tremor, abdominal and muscle cramps, vomiting and sweating). Keep addiction-prone individuals under careful surveillance because of their predisposition to habituation and dependence. In pregnancy, lactation or women of childbearing age, weigh potential benefit against possible hazard.

Precautions: If combined with other psychotropics or anticonvulsants, consider carefully pharmacology of agents employed; drugs such as phenothiazines, narcotics, barbiturates, MAO inhibitors and other antidepressants may potentiate its action. Usual precautions indicated in patients severely depressed, or with latent depression, or with suicidal tendencies. Observe usual precautions in impaired renal or hepatic function. Limit dosage to smallest effective amount in elderly and debilitated to preclude ataxia or oversedation.

Side Effects: Drowsiness, confusion, diplopia, hypotension, changes in libido, nausea, fatigue, depression, dysarthria, jaundice, skin rash, ataxia, constipation, headache, incontinence, changes in salivation, slurred speech, tremor, vertigo, urinary retention, blurred vision. Paradoxical reactions such as acute hyperexcited states, anxiety, hallucinations, increased muscle spasticity, insomnia, rage, sleep disturbances, stimulation have been reported; should these occur, discontinue drug. Isolated reports of neutropenia, jaundice; periodic blood counts and liver function tests advisable during long-term therapy.

Dosage: Individualize for maximum beneficial effect. *Adults:* Tension, anxiety and psychoneurotic states, 2 to 10 mg b.i.d. to q.i.d.; alcoholism, 10 mg t.i.d. or q.i.d. in first 24 hours, then 5 mg t.i.d. or q.i.d. as needed; adjunctively in skeletal muscle spasm, 2 to 10 mg t.i.d. or q.i.d.; adjunctively in convulsive disorders, 2 to 10 mg b.i.d. to q.i.d. *Geriatric or debilitated patients:* 2 to 2½ mg, 1 or 2 times daily initially, increasing as needed and tolerated. (See Precautions.) *Children:* 1 to 2½ mg t.i.d. or q.i.d. initially, increasing as needed and tolerated (not for use under 6 months).

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CONTINUING EDUCATION COURSES

Cardiology: The 4th Annual Texas Heart Institute Symposium presents "A Physiologic Approach to Clinical Cardiology" sponsored by Texas Heart Institute in Houston, May 31-June 2. Teaching methods to be used are audiovisual materials, lectures, open question and panel sessions, and seminars. Enrollment is unlimited, and the course is accredited for 16 hours by AAFP. Fee is $25. For more information contact: Dr. Robert J. Hall, Medical Director, Texas Heart Institute, One Bates Ave., Houston 77025.

Cardiology: "Problems of Patients with Clinical Heart Disease" will be the theme of the program sponsored by American Heart Association, Texas Affiliate, Inc., and UT Health Science Center at Dallas, June 21-23, Dallas. Fee: $15, AHA members; $20, nonmembers. Credit: 8 prescribed hours, 12 elective hours, AAFP. Contact: Dale Stringfellow, Program Director, American Heart Association, Texas Affiliate, Inc., PO Box 9928, Austin 78766.

Cardiology, Arthritis and Neurology: The 18th Annual Central Florida Medical Meeting will sponsor a seminar on cardiology, arthritis and neurology June 1-3, at the Contemporary Hotel, Walt Disney World, Orlando, Fla. Faculty will include Dr. Davis S. Howell, professor of medicine, University of Miami; Dr. Thazhathekeidejil Kuriakose, Tufts University School of Medicine, Boston; Dr. James S. Morris, professor of medicine, Division of Cardiology, Duke University; Dr. Augusto Sarmiento, professor of orthopedics, University of Miami; Dr. Morton N. Schwartzman, assistant professor of medicine, University of Miami; and Dr. Elbert Tuttle, professor of medicine, Emory University, Atlanta, Ga. Registration fee: FMA and OCMS members, $50; Visitor MDs, $100.; no charge for interns and residents with letter from chief of service. Contact: 18th Annual Central Florida Medical Meeting, Walt Disney World Reservations, PO Box 78, Lake Buena Vista, Fla. 32830.

Community Medicine: The Page and William Black Post-Graduate School of Medicine and The Department of Community Medicine, Mount Sinai School of Medicine, will present "Principles and Practice of Community Medicine" at Guggenheim Hall Auditorium, New York City, June 4-8. This course is designed to teach the practicing physician some of the basic concepts and principles of the practice of Community Medicine particularly as they affect the care of the individual patient, family, and the health of a community of patients. The emphasis will be on the promotion and maintenance of health as well as the epidemiology and prevention of disease. Guest faculty will include Ruth Atkins, coordinator, Comprehensive Health Planning Agency, East Harlem, NY; John T. Grupenhoff, PhD, lecturer in administrative medicine, Mount Sinai School of Medicine; Dr. John M. Last, professor and chairman of department of epidemiology and community medicine, University of Ottawa, Ottawa, Canada; Dr. Leslie S. Libow, chief of geriatric medicine at Elmhurst City Hospital, and assistant clinical professor of medicine, Mount Sinai School of Medicine; and James Soler, MSS, executive director of Union Settlement, East Harlem, NY. A credit of 26 hours will be allowed toward the AMA's Physician's Recognition Award.

For registration information, write to The American College of Physicians, 4200 Pine Street, Philadelphia, Pa. 19104.

Electroencephalography: Sponsored by American Electroencephalographic Society, the 8th Annual Continuation Course on "Clinical Electroencephalography" will be held June 14, at the Statler-Hilton Hotel in Boston. The course will emphasize practical problems of interpretation for clinical diagnosis, and is approved by the Council on Medical Education of American Medical Association. For further information and registration procedures, contact: Dr. Donald W. Klass, Mayo Clinic. 200 First St., S.W., Rochester, Minn. 55901.

Fifteenth Summer Session of Statistics in the Health Sciences: Sponsored by the UT School of Public Health at Houston, June 21-Aug. 3. Contact: Summer Session of Statistics, The University of Texas School of Public Health, PO Box 20186, Astrodome Station, Houston 77025.

Hematology: A patient and problem-oriented course for the family physician and internist will be sponsored by UT Health Science Center at San Antonio, June 23-24, San Antonio. It will deal with practical issues of diagnosis and therapy in common hematological problems. Time, in the course, will be divided between informal lecture presentations with question and answer periods, Kodachrome slide presentations of peripheral blood smears as they apply to clinical problems and small group discussions of case problems. Fee: $50. Credit: 12 hours, AAFP and Category 1, AMA Physicians Recognition Award. Contact: Dr. Paul Cutler, Associate Dean for Clinical Affairs, UT Health Science Center at San Antonio, 7703 Floyd Curl Dr., San Antonio 78284.

Renal Disease: Renal problems most frequently encountered by the family physician, internist and pediatrician will be emphasized during this course sponsored by UT Health Science Center at San Antonio, June 9-10, Kerrville. Included will be evaluation of patients with proteinuria, management of chronic renal insufficiency and treatment of urinary tract infections. There will be a general review of the usefulness of renal biopsy, dialysis techniques and renal transplantation. Time will be included for questions and group discussions. Fee: $50. Credit: 8 hours, AAFP and Category 1, AMA Physicians Recognition Award. Contact: Dr. Paul Cutler, Assistant Dean for Clinical Affairs, UT Health Science Center at San Antonio, 7703 Floyd Curl Dr., San Antonio 78284.

MORE CONTINUING EDUCATION COURSES

JUNE

Trauma: Sponsored by American College of Surgeons, this trauma seminar will be held at Medical University of South Carolina, Charleston, June 17-20. Though aimed at the non-specialist general practitioner and emergency department physician, the seminar will be advantageous to surgical specialists and internists. Curriculum will cover assessment of the critically injured and causes of death soon after injury—airway and respiratory problems, hemorrhagic shock, and brain damage; life-threatening injuries to the head, chest, abdomen and extremities; and late life-threatening complications, including pulmonary insufficiency from non-thoracic trauma, impaired kidney function complicating patient management and complications following blood transfusions. Hyperalimentation and intensive care of the trauma patient also will be covered. Fee: $50. Contact: Dr. Curtis P. Artz, Department of Surgery, Medical University of South Carolina, Charleston 29208.

Human Sexuality: A course in human sexuality with special emphasis on the treatment of sexual dysfunction will be presented on June 8-9 at Sid Richardson Auditorium, Temple, Tex. Sponsors for the course are The University of Texas Medical Branch at Galveston and Scott and White Clinic, Temple. Contact: Dr. Paxton H. Howard, Jr., Scott and White Clinic, Temple 76501, Prog. Dir.

JULY

Internal Medicine: The University of Colorado School of Medicine will sponsor its 9th Annual Course in Internal Medicine July 16-20, at the YMCA Conference Center, Estes Park, Colo. The course is designed to keep the physician in practice abreast of significant new developments in the field of internal medicine. For more information and a detailed program, contact: Office of Continuing Medical Education, University of Colorado School of Medicine, 4200 E. Ninth Ave., Denver 80220.

Biliary Tract Disease: A postgraduate course on biliary tract disease will be sponsored by American Gastroenterological Association July 26-28, Aspen, Colo. The course is designed primarily for physicians in general practice, internal medicine, surgery and pediatrics with a strong interest in liver disease and gastroenterology. It is accredited for 12 hours by the AAFP. Contact: Charles B. Slack, Exec. Sec., 6900 Grove Rd., Thorofare, NJ 08086.

Pediatrics: The 16th Annual Course in Pediatrics sponsored by University of Colorado School of Medicine will be held July 29-Aug. 1 at The Given Institute of Pathobiology, Aspen, Colo. Tuition for the course is $100. For further information and a detailed program, contact: The Office of Continuing Medical Education, University of Colorado School of Medicine, 4200 E. Ninth Ave., Denver 80220.

SEPTEMBER

Management of Cardiac Disease in Infancy: Sponsored by UT Health Science Center at San Antonio, Sept. 14-15, San Antonio. Fee: $50. Credit: 10 hours, AAFP and Category 1, AMA Phy. Recog. Award. Contact: Dr. Paul Cutler, Associate Dean for Clinical Affairs, UT Health Science Center at San Antonio, 7703 Floyd Curl Dr., San Antonio 78284.

Basic Electrocardiography: Sponsored by UT Health Science Center at San Antonio, Sept. 13-Nov. 15, San Antonio. Fee: $50. Credit: 20 hours, AAFP and Category 1, AMA Phy. Recog. Award. Contact: Dr. Paul Cutler, Associate Dean for Clinical Affairs, UT Health Science Center at San Antonio, 7703 Floyd Curl Dr., San Antonio 78284.

Progress in Medicine and Surgery: Sponsored by Scott and White Memorial Hospital and Scott, Sherwood and Brindley Foundation, September, Temple. Fee: $35. Credit: 6 hours. Contact: Department of Education, Scott and White Memorial Hospital, Temple 76501.

Office Practice of Gynecology: Sponsored by South Plains Chapter, Texas Academy of Family Physicians and Texas Tech University School of Medicine, Sept. 15, Lubbock. Contact: Walter R. Gault, Texas Tech University School of Medicine, PO Box 4569, Lubbock 79409.

What's New in Orthopaedics: Sponsored by American Academy of Orthopaedic Surgeons, Sept. 5-7, San Antonio. Fee: $150. Credit: 21 hours. Contact: Dr. Charles A. Rockwood, Jr., UT Health Science Center at San Antonio, 7703 Floyd Curl Dr., San Antonio 78284.

Workshop in Soft Tissue Surgery: Sponsored by UT Otolaryngology Training Programs, Sept. 21-23, Dallas. Fee: $100. Contact: Dr. Jack P. Gunter, Chairman, Division of Otolaryngology, UT Health Science Center at Dallas, 8210 Walnut Hill Lane, #314, Dallas 75231.

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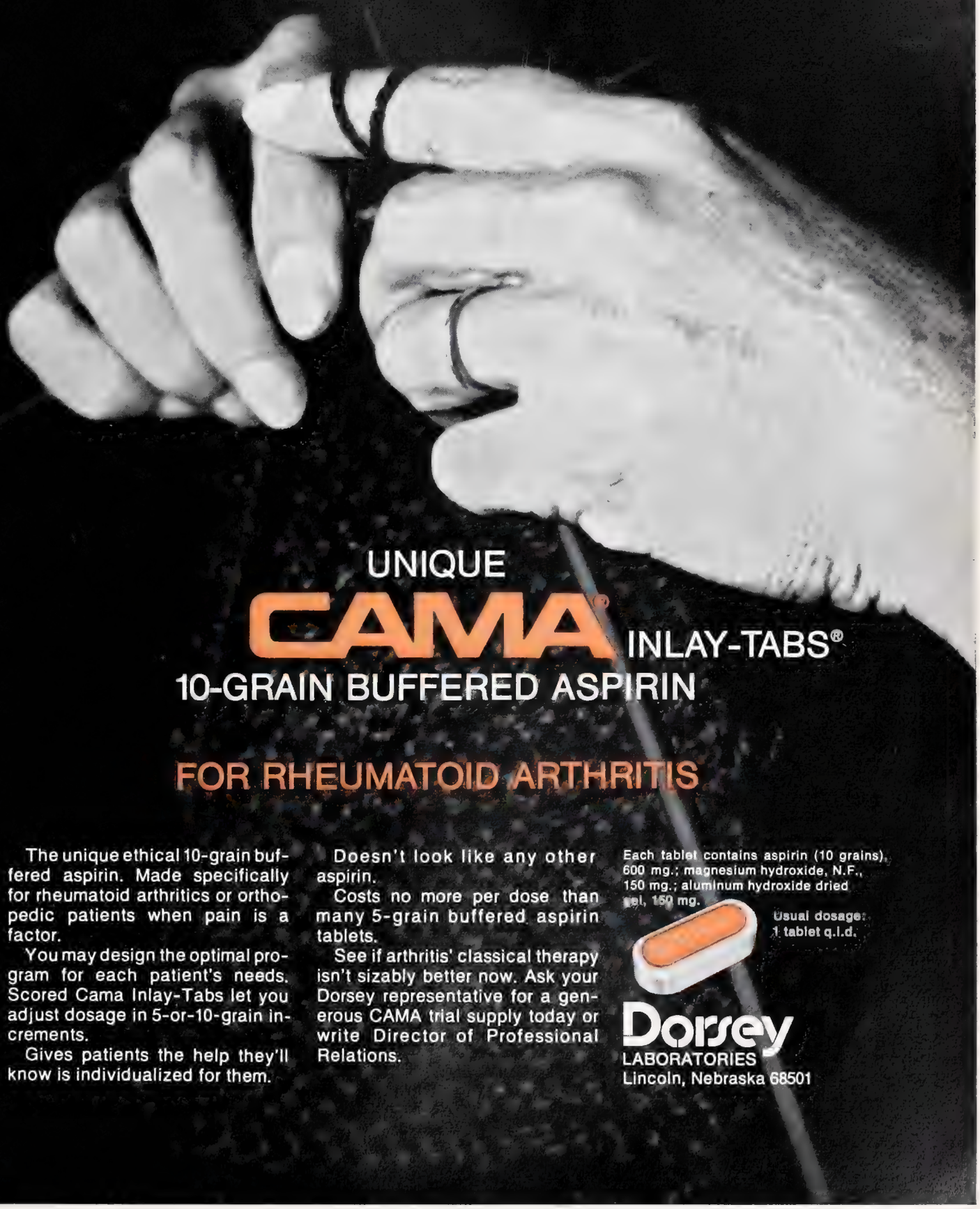

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Pinworm therapy is often a family affair

Contraindications: History of hypersensitivity to thiabendazole.
Warnings: If hypersensitivity reactions occur, drug should be discontinued immediately and not resumed. Rarely, erythema multiforme has been associated with thiabendazole therapy; in severe cases (Stevens-Johnson syndrome), fatalities have occurred. Because CNS side effects may occur quite frequently, activities requiring mental alertness should be avoided. Safe use in pregnancy or lactation has not been established.
Precautions: Ideally, supportive therapy is indicated for anemic, dehydrated, or malnourished patients prior to initiation of anthelmintic therapy. In presence of hepatic or renal dysfunction, patients should be carefully monitored.
Adverse Reactions: Most frequently encountered are anorexia, nausea, vomiting, and dizziness. Less frequently, diarrhea, epigastric distress, pruritus, weariness, drowsiness, giddiness, and headache have occurred. Rarely, tinnitus, hyperirritability, numbness, abnormal sensation in eyes, blurring of vision, xanthopsia; hypotension, collapse; enuresis; transient rise in cephalin flocculation and SGOT; perianal rash, cholestasis and parenchymal liver damage; hyperglycemia; transient leukopenia; malodor of the urine, crystalluria, hematuria; appearance of live Ascaris in the mouth and nose. Hypersensitivity reactions

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For more detailed information, consult your MSD representative or see full prescribing information. Merck Sharp & Dohme, Division of Merck & Co., Inc., West Point, Pa. 19486

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addendum

INDICATION | DOSAGE SCHEDULE

MINTEZOL® (Thiabendazole, MSD) has demonstrated effectiveness against a broad spectrum of nematode infections. Dosages are weight related. For your convenience, the information in the weight-dose chart below is included in the full prescribing information and in the 1973 edition of PDR.
The recommended maximum daily dose of MINTEZOL is 3 g (6 tablets).
MINTEZOL should be given after meals if possible. Dietary restriction, complementary medications, and cleansing enemas are not needed.
The usual dosage schedule for all conditions is two doses per day. The size of the dose is determined by the patient's weight.

Weight-dose chart:

WEIGHT (lb)	EACH DOSE (g)	TABLETS
25	0.25	½
50	0.5	1
75	0.75	1½
100	1.0	2
125	1.25	2½
150 & over	1.5	3

The regimen for each indication follows:

INDICATION	REGIMEN	COMMENTS
Pinworm disease	Two doses per day for 1 day. Repeat in 7 days. This regimen is designed to reduce the risk of reinfection.	If this is not practical, give 2 doses per day for 2 successive days.
Threadworm,* large roundworm,* hookworm,* and whipworm* disease	Two doses per day for 2 successive days.	A single dose of 20 mg/lb or 50 mg/kg may be employed as an alternative schedule, but a higher incidence of side effects should be expected.
Creeping eruption	Two doses per day for 2 successive days.	If active lesions are still present 2 days after completion of therapy, a second course is recommended.
Symptoms of trichinosis* during the invasive phase of the disease	Two doses per day for 2 to 4 successive days according to the response of the patient.	The optimal dosage for the treatment of trichinosis has not been established.

*Clinical experience with thiabendazole for treatment of each of these conditions in children weighing less than 30 lb has been limited.

POWELL & HYDE STS.
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If he's making the rounds of San Francisco...

Antivert® (meclizine HCl) for vertigo*

Antivert® (meclizine HCl) has been found useful in the management of vertigo associated with diseases affecting the vestibular system. It is available as Antivert (12.5 mg. meclizine HCl) and Antivert/25 (25 mg. meclizine HCl) scored tablets for convenience and flexibility of dosage. Antivert/25 (25 mg. meclizine HCl) Chewable Tablets are available for the management of nausea, vomiting, and dizziness associated with motion sickness.

*INDICATIONS. Based on a review of this drug by the National Academy of Sciences-National Research Council and/or other information, FDA has classified the indications as follows:

Effective: Management of nausea and vomiting and dizziness associated with motion sickness.

Possibly Effective: Management of vertigo associated with diseases affecting the vestibular system.

Final classification of the less than effective indications requires further investigation.

CONTRAINDICATIONS. Administration of Antivert during pregnancy or to women who may become pregnant is contraindicated in view of the teratogenic effect of the drug in rats.

The administration of meclizine to pregnant rats during the 12th-15th day of gestation has produced cleft palate in the offspring. Limited studies using doses of over 100 mg./kg./day in rabbits and 10 mg./kg./day in pigs and monkeys did not show cleft palate. Congeners of meclizine have caused cleft palate in species other than the rat.

Meclizine HCl is contraindicated in individuals who have shown a previous hypersensitivity to it.

WARNINGS. Since drowsiness may, on occasion, occur with use of this drug, patients should be warned of this possibility and cautioned against driving a car or operating dangerous machinery.

Usage in Children: Clinical studies establishing safety and effectiveness in children have not been done; therefore, usage is not recommended in the pediatric age group.

Usage in Pregnancy: See "Contraindications."

ADVERSE REACTIONS. Drowsiness, dry mouth and, on rare occasions, blurred vision have been reported.

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Physicians' Current Procedural Terminology

C. B. Jackson, Jr., MD

Physicians' Current Procedural Terminology is the culmination of several efforts by organized medicine to create a uniform reporting system for physicians' services and procedures. The third edition (CPT III) contains an accurate, timely listing which will be most useful to the practicing physician in patient billing. When used, it will completely define a physician's activity to insurers and other third-party payors. It will expedite claims handling and improve the quality of claim review. Some understanding of CPT is gained simply by learning how a single code was devised: The numbers 9-0 mean "AMA, CPT physician visit"; the number 2 means "hospital"; the numbers 4-0 mean "follow-up, brief." Therefore, 90240 means that the physician visited his patient in the hospital and rendered brief follow-up service.

To file a meaningful claim for this service, the reporting physician merely writes five digits, or simply checks them, on a billing document. The third edition of CPT, published March 20, 1973, is now available. CPT is a listing of preferred terms. It is a common numeric language for machine (computer) handling and reliable communication between the providers of medical care, the patient, third party payors, and carriers. The evolution of these procedural coding systems has included work with several state medical associations, the National Association of Blue Shield Plans, and the Department of Health, Education and Welfare.

When Texas Blue Cross and Blue Shield published their *Procedure Code and Terminology Manual* in October 1971, the foreword indicated that they were making every effort to convert those codes and terminologies to the AMA's approved *Current Procedural Terminology* system. They did pursue this effort as promised, but approximately two weeks before they converted to CPT the Texas Blues activity was blocked by a directive from the Social Security Administration's Bureau of Health Insurance. That moratorium is still in effect and is now a matter of debate. It is to be hoped that CPT will be accepted by the secretary of the DHEW soon. *Current Procedural Terminology*, third edition, has been sponsored by the AMA Board of Trustees' committee on computer systems in medicine. It is the direct result of a mountainous effort on the part of Burgess L. Gordon, MD, editor; his entire staff; the CPT Editorial Board; and the National Medical Specialty Societies, who have worked in cooperation with health insurance organizations and agencies. One of the foreword drafts describes the AMA's role as "supporter, mentor, coordinator, custodian and publisher."

This expanded listing is adequate to describe everything that occurs between the physician and the patient. Obviously, if it is large enough it will allow complete and honest reporting. Fig 1 is an example of one part of the CPT which deals with hospital medical services.

The five-digit number is simply a reference to the English description. The entire definition then is transmitted with these numbers. CPT can be useful in reviewing your own practice, demonstrating your own procedure profile, creating management information regarding income sources, and for utilization review. In other words, if humans can read English and the machine can read the numbers, CPT need not be memorized, only utilized. Physicians can conceivably create a management document which will do simultaneously all billing and accounting. This can even include aging of accounts receivable and identifying a physician's own fee pro-

file by reentering amounts paid against accounts claimed.

Physicians' Current Procedural Terminology in usage becomes a powerful instrument. It is nothing more or less than uniform language to solve the old problems at Babel.

Dr. Jackson, clinical assistant professor of medicine, The University of Texas Medical School at San Antonio. Office: 1620 Nix Professional Bldg, San Antonio, Texas 78205.

HOSPITAL MEDICAL SERVICES

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SUBSEQUENT HOSPITAL CARE

90240 Brief service

90250 Limited service

90260 Intermediate service

90270 Extended service

90285 Routine newborn care in hospital, including physical examination of baby and conference(s) with parent(s)

---

1. A portion of CPT that deals with hospital medical services.

The hazardous hospital environment

Capt. Robert W. Feldtman, USAF MC; John R. Derrick, MD

Interest in patient safety in the hospital has risen as electronic instrumentation has become more sophisticated and available to all physicians. The dictum, "primum non nocere," has never been as applicable as it is here. Patients could possibly be exposed to diagnostic equipment for "academic" purposes only, thus constituting a risk for minimal return. The problem of microshock hazard extends from small office ECG machines to elaborate instrumentation in the open heart surgery suite.

The aim of this article is to provide the basic information and references for physicians and paramedical personnel using any medical electronic instrumentation.

Electrophysiologic Concepts

The basic electrical concept of Ohm's law, I=E/R where I=current, E=voltage, and R=resistance, is important to the understanding of microshock hazards (Fig 1). When one considers estimates of fatal current to be as low as 5 microamperes[1] (but probably around 50 microamperes[2]), it is easy to see how 2.5μv to 25μv can be lethal assuming a cardiac impedance of 500 ohms.[3]

The amount of current passed through the body is important; its path is even more so. A current of 5 ma, 60 cps, passed through the hand will produce tingling, but a current one-thousandth as strong, 5 microamperes, applied to the myocardium may produce ventricular fibrillation and death. Contact with 110 volts to more than 7,200 volts can produce severe electrocoagulation of extremities, but can still be compatible with life. A review of 78 patients treated for electrical burns at The University of Texas Medical Branch revealed no changes in myocardial status following severe soft-tissue electrocoagulation.[4]

Two possible explanations for this peculiarity are that the shock caused cardiac standstill (which is a reversible situation as compared with ventricular fibrillation) or that the current density through the heart was small as compared with that through the hand or arm. Current density is defined as the amount of current flowing through specific cross-sectional density of tissue.[5]

The heart is a sensitive organ, having an electrical impedance of 250 to 500 ohms.[6] It is most irritable during the downslope of the "T" wave (repolarization). A direct current applied to the heart will merely change the baseline of the ECG, and unless it is coincidentally applied during the vulnerable period, it will not harm the heart. Fig 2 demonstrates how the myocardium is stimulated repetitively during the vulnerable period when 60 cps, alternating current, is applied to it.

Actual studies involving fibrillatory

1. Glossary.

Ohm's Law: Ohm's law is the relationship of voltage, current, and resistance. With any two values, the third can be determined thusly: I=E/R

Current: Current is the amount of electricity flowing through a specific conductor. The unit of measure, an ampere, is abbreviated (I), and is composed of 1,000 milliamperes, or 1,000,000 microamperes.

Voltage: Voltage is the electrical pressure involved in any current flow. The unit of measure, volt (E) is composed of 1,000 millivolts.

Resistance: Resistance is a physical characteristic of any conductor which causes slowing of electron flow, thus a low-resistance conductor will allow high currents to flow with small amounts of voltage. Resistance is expressed in ohms (R). A megohm is 1,000,000 ohms.

threshold have demonstrated the range of 30 to 100 cps as being the most lethal.[7] The frequency of US power lines falls right in the middle of this hazardous range at 60 cps.

The current required to fibrillate a heart is like any other physiologic parameter; it is variable. Early studies revealed that as little as 20 microamperes would fibrillate canine hearts, and 180 microamperes were required for the human heart.[2] Reduplication of these experiments in our cardiovascular research laboratory and open heart surgery suite have confirmed these data. Two hundred microamperes would fibrillate a canine heart consistently, while only 1 to 2 v were needed for human heart fibrillation.

Hazardous Hospital Situations

The first physicians to recognize the hazards of electrical microshock were anesthesiologists and cardiologists. Their patients are in a particularly high risk area, ie, the operating room and cardiac catheterization laboratory.[8,9] Radiologists are concerned with electrical safety with the advent of coronary arteriography and ventriculography. Radiopaque dye is a highly ionized solution and can easily conduct sufficient current to fibrillate the heart. This is true of any ionized solution that enters the body via a needle or catheter. Even a central venous pressure line can be a pathway for electricity to flow directly into the right atrium, as in Fig 3.

Intensive care and coronary care units are dangerous because so many monitoring units are used on each patient. Unless each piece of monitoring equipment is meticulously grounded to an equipotential ground, the very monitors themselves can be extremely hazardous. Electrically operated beds, designed to assist the overworked nurse, can cause fibrillation quite easily.[10]

The portable ECG machine extends the microshock hazard to every room in the hospital, and even to the physician's private office.

Endoscopy presents a special problem to specialists involved in inserting lighted metallic endoscopes into cavities lined with wet mucous membranes. Although fiberoptic endoscopes have lessened the likelihood of stray current from the light supply itself, associated metallic biopsy equipment allows a path for direct current flow to the mucosal surface. Electrocautery actually applies current to the surface. This is at a frequency which is not as dangerous as 60 cps, but is not innocuous. Atrial fibrillation and pacemaker malfunction has occurred with electrocoagulation currents.[11,12]

Sources of Current

Obvious sources of stray current have been mentioned, such as faulty wiring in existing equipment. Probably the most common source of stray current is faulty grounding. The physician's failure to demand the use of a three-prong rounded plug, and to affix a separate equipotential ground wire to each piece of equipment denies the patient his most basic protection against electrocution.

Power cords can produce one microampere of current per foot,[1] so it is obvious that only a few feet are required to produce dangerous currents in an otherwise safe piece of equipment.

Ground loops and surge potentials are complex electrical phenomenon that produce unwanted spikes of current in monitoring equipment. These current spikes are often seen on CCU monitors when equipment such as a nearby electric bed is activated.

Remedial Action

The first and most important step in protecting your patients against microshock

is to be aware of the problem and educate all paramedical personnel about it.

Improvement in circuit design has made modern electronic equipment somewhat safer than earlier designs. One must always remember that most hospital equipment in use today is old and hazardous. Also, the new equipment is not infallible, and requires considerable maintenance to preserve its safety.

Basic changes in architectural design of hospitals can alter current loops and insure equipotential grounds, but there is little that can be done with existing structures.

Some of the things which can be done are easily accomplished by the physician himself. A larger copper ground bus can be tacked around the wall of the room (such as a CCU), grounded, and each piece of electrical equipment attached to this (Fig 4).

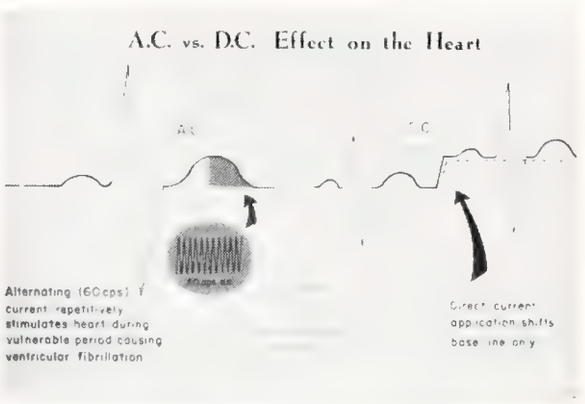
Observation of alternating current artifact on monitors or ECG machines should prompt an immediate disconnection of the patient from the machine. One should never turn the power switch off before disconnecting a patient from electronic equipment, as this may cause a discharge of filter capacitors which may deliver a shock to the patient.

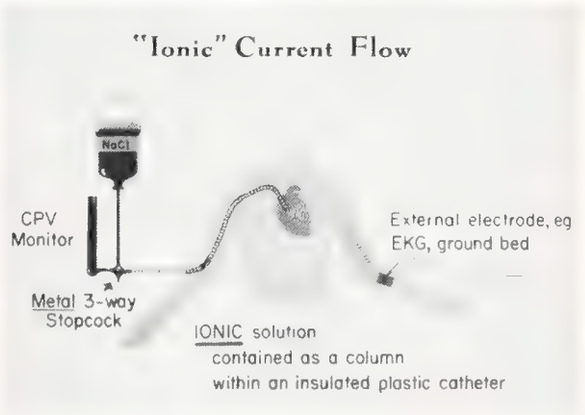
When hazardous situations are recognized, paramedical personnel should take steps immediately to lessen the hazard without removing livesaving catheters and electrodes.

Early model portable pacemakers encased in metal can be easily slipped inside a rubber surgeon's glove to offer some degree of protection against current getting onto the pacer case, and thence into the patient's heart via an intracardiac electrode. This also has the added advantage that it prevents people from tampering with the rate, sensitivity, and pulse amplitude on the pacer.

Many people are quite careful around

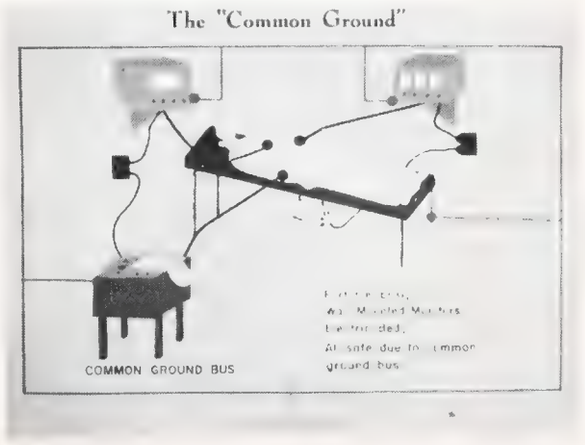
2. Alternating current effect on the heart—a repetitive 60 cps current insures several bursts of the "R on T wave" phenomenon during the heart's vulnerable period, as opposed to direct current application.





3. Ionic current flow. A plastic central venous pressure catheter, containing any ionized solution, can direct fatal currents into the right atrium, anatomical position of the sinoatrial node.

4. The common ground. A large copper ground wire will provide an equipotential ground source for all electrical apparatus associated with patient care. This will shunt all stray currents away from the patient, preventing microshock electrocution.

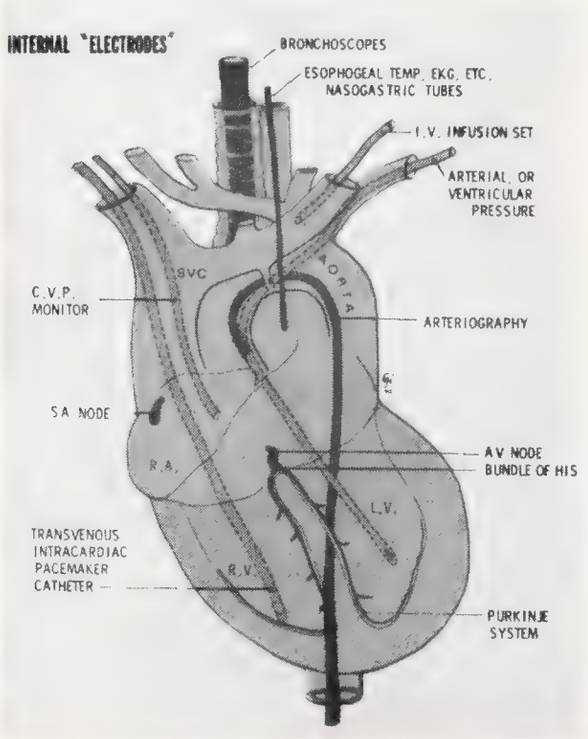


Swan-Ganz catheters in the pulmonary artery, as they should be, but physicians often fail to recognize that a central venous pressure line is even more hazardous. The tip of a CVP is ideally in the right atrium, only a short distance from the sino-auricular node. One should, therefore, be quite careful in using pressure injectors and giving injections into a CVP line with metallic needles.

A physician who carefully surveys the environment in which he places his patients will discover that many appliances are powered with two-prong plugs. One should not overlook simple items such as gooseneck lamps, examining tables, bedside radios, televisions, intercom systems, and electric razors brought to the patient by well-wishing relatives.

One need only briefly review the anatomy of the heart and the structures surrounding it to find out how many pathways of electricity we provide which are potentially lethal (Fig 5).

5. The anatomy of electrocution. An artist's view of the heart reveals a few of the many electrodes, tubes, catheters, and instruments placed in very close relationship to the myocardium. Any of these can carry fatal current to the heart.



Standardization and Legislation

Because of the microshock hazard, several studies have attempted to clarify safety levels for stray current and design and installation of equipment to be used in health care facilities.[13-15]

A brief review of the literature will show many available guidelines, and also legislation governing standards involving medical equipment.[16-18]

Physicians are required to provide a safe environment for their employees under the Williams-Steiger Occupational Safety and Health Act of 1970.[19] They also are supposed to display a poster supplied by the Occupational Safety and Health Administration in a prominent place. They also are required to keep a log and report any and all serious occupational injuries or illness. Texas physicians can obtain information from the Occupational Safety and Health Administration, Regional Office 6, Room 730-C, Mayflower Building, Dallas 75201.

Conclusion

We have attempted to bring the subject of microshock hazard into the office of each Texas physician, explain a few of the basic fundamentals, and provide references for further evaluation of each situation.

If you wonder about your electrical environment, just look at the plug on a nearby portable ECG machine or examining lamp. If it is a two-prong plug, we suggest that you learn more about this subject, and/or get professional help in correcting any dangerous situation which may develop.

We can substantially reduce the micro-

shock hazard by remembering six simple rules associated with the letters of the word "SAFETY":

Suspicion. Be suspicious of all electronic equipment. Consider it potentially harmful to your patient until proved otherwise. Insist on regularly scheduled electrical checks and maintenance of your patients' electrical environment.

Adequate ground. Be absolutely certain that the environment in which you place your patient—including all equipment and conductive surfaces—is adequately grounded.

Faulty plugs. Consciously check the plug on every piece of equipment before you plug it in. Consider every two-prong plug and every two-prong adapter of any type to be lethal, and refuse to use them. Insist on replacement of any three-prong plug which looks worn or damaged.

Equipment. Insist that all equipment which you use in patient care be carefully inspected by the hospital engineer before it reaches your hands. Have it rechecked regularly and discontinue its use immediately if any suspicion regarding its safety arises.

Terminals or leads. When you connect any type of electrode or catheter to a patient, remember that through it or its terminals you may be providing a potential pathway for the patient's electrocution. Leave no portion of these leads exposed to a potential source of stray current.

Your reaction to electrocution. Whenever you suspect ventricular fibrillation in a patient, you should immediately disconnect the patient from all monitoring equipment except for one ECG for monitoring during resuscitation. Since this ECG might be the source of stray current, look for AC artifacts on the tracing, and if present, remove it from the patient. Ideally, another ECG should be available in this situation. Continue with the routine steps in cardiopulmonary resuscitation, and finally call for electronic assistance from the hospital engineer who may be able to confirm or deny the possibility of electrical accident.

References

1. Von der Mosel HA: Electrical safety and our hospitals. J Assoc Adv Med Instrum, 4:2-5, 1970.
2. Whalen RE, Starmer CF, McIntosh HD: Electrical hazards associated with cardiac pacemaking. Ann NY Acad Sci 111:922-931, 1964.
3. Knickerbocker G: Effects of electrical currents on the heart. J Assoc Adv Med Instrum, 3:58-62, 1969.
4. Starmer CF, Whalen RE, McIntosh HD: Hazards of electric shock in cardiology. Amer J Cardiol, 14:537-546, 1964.
5. Lynch JB, Wisner HK, Lewis SR: Management of electrical injuries. Southern Med J 64:97-103, 1971.
6. Stanley PE: Monitors that save lives can also kill. Mod Hosp 108:119-121, 1967.
7. Geddes LA, et al: Response to passage of electric current through the body. J Assoc Adv Med Instrum 5: 13-18, 1971.
8. Bruner JMR: Hazards of electrical apparatus. Anesthesiology 28:396-425, 1967.
9. Starmer FC, McIntosh HD, Starmer CF: Electrical hazards and cardiovascular function. New Eng J Med 284:181-185, 1971.
10. Aronow S, Bruner JMR, Siegal EF, et al: Ventricular fibrillation associated with an electrically operated bed. New Eng J Med 281:31-32, 1969.
11. Utley JR, Montgomery S, Sanderson RG: Atrial fibrillation induced by coagulating suction tip during mediastinoscopy. New Eng J Med 284:106-107, 1971.
12. Lichter I, Borrie J, Miller WM: Radiofrequency hazards with cardiac pacemakers. Brit Med J 5449: 1513-1518, 1965.
13. 'Long overdue' medical device legislation expected. AMA News (April 10) 1972.
14. Jordan WD: Standard methods of measuring risk current. J Assoc Adv Med Instrum 5:357-362, 1971.
15. Ray CD: Standardization in medical instrumentation. J Assoc Adv Med Instrum 2:6-12, 1967.
16. Griffin NL: Electronics for hospital patient care. Washington, DC, PHS Document No. 930-D-25, 1966.
17. Rendell-Baker L, et al: AAMI FDA National Conference on Medical Device Standards, J Assoc Adv Med Instrum 6:126-140, 1972.
18. Recommended AAMI safety standard for electromedical apparatus. J Assoc Adv Med Instrum 5:314-321, 1971.
19. Employee hazard, safety law applies to physicians. AMA News, (April 17) 1972.

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A case report

Hamman-Rich syndrome
A disease of unknown or multiple causes

Thomas J. Cody, MD; Peter Zanca, MD

Hamman-Rich syndrome is an uncommon, deadly pulmonary disease which produces interstitial pulmonary fibrosis. Its cause is unknown. Since the first case report in 1935, there have been more than 100 cases proven by histological studies. For many of these cases a number of possible causative agents (chemical, physical, immunologic), have been suggested. This case, proven by histologic studies, developed in a carpenter who was exposed to wood dust for more than 30 years.

Case Report

A 55-year-old, Latin-American, male carpenter was admitted to the hospital on Jan 30, 1970, because of severe dyspnea. He had been entirely well until six weeks prior to admission. At that time he began to have dyspnea on exertion. Within six weeks the patient developed dyspnea at rest and had two episodes of coughing up blood-tinged sputum.

On admission the physical findings included clubbing of the digits, decreased diaphragmatic exertion, and diffusely decreased breath sounds with scattered rhonchi.

Normal values were determined for: serum proteins, antinuclear factor, rheumatoid arthritis fraction II latex, lupus erythematosus preparation, VDRL, sputum smear for acid-fast bacilli, bilirubin, alkaline phosphatase, acid phosphatase, and serum glutamic oxaloacetic transaminase. The hemoglobin value was 15.4 gm/100 ml; hematocrit, 46%; and white blood cell count, 11,700/cu mm with a normal differential. Results of urinalysis were normal except for proteinuria (1+) and 15-20 WBC/hpf. Sedimentation rate was 48.

A routine posteroanterior roentgenogram of the chest was taken on admission; it showed intra-alveolar and interstitial miliary nodular infiltrates scattered throughout both lung fields. There was an increase in the transverse diameter of the heart suggesting mild right ventricular enlargement. These findings were consistent with interstitial pulmonary fibrosis or interstitial pneumonitis (Fig 1).

Pulmonary function studies revealed that the patient's vital capacity was reduced. At rest, arterial saturation was grossly reduced. When the patient was breathing 100% oxygen, the saturation rose from 78.5 to 93.2 vol%, suggesting fixed shunting.

His hospital course was marked by severe intractable dyspnea which was relieved only partially by oxygen administration. On the fourth hospital day, a needle biopsy of the lung was performed. Interstitial fibrosis and chronic inflammation were noted in microscopic examination (Fig 2).

On the fifth hospital day, treatment with corticosteroids was started. Because the patient had increasing difficulty breathing, a tracheostomy was scheduled that same day for positive-pressure ventilation. During endotracheal intubation prior to tracheostomy, subcutaneous emphysema developed. A roentgenogram of the chest, made immediately with a portable machine, revealed supraclavicular bilateral interstitial emphysema and bilateral axillary emphysema. The roentgenogram at this time revealed a 25% pneumothorax on the right side (Fig 3).

Shortly thereafter, the patient went into shock and died. An autopsy was not obtained.

Discussion

The first cases of diffuse interstitial fibrosis were reported by Hamman and Rich in

1935. In 1944 they described an additional case.[5,6] Since 1944, more than 100 confirmed cases have been recorded; however, little has been added to the basic knowledge regarding the etiology or pathology of Hamman-Rich syndrome.

Many chemical and physical factors have been listed as possible causative agents of interstitial pulmonary fibrosis of the Hamman-Rich type. Asbestos, beryllium, mercury fumes, and agricultural dust have been reported by some authors.[12,19] Virus-like particles have been described.[14] Hereditary immunological factors and collagen diseases have been among those more commonly mentioned by other authors.

In this case, the patient was a carpenter, was exposed to redwood sawdust for 30 years, and appeared to be doing well until his last six weeks of life. Clinically and terminally, this patient had all of the classical signs of Hamman-Rich syndrome.

Hamman-Rich syndrome most commonly occurs in patients between the ages of 40-60, and is slightly more common in males. A hereditary factor has been demonstrated, showing transmission by an autosomal dominant trait in as many as 25% of the cases.[21] This disease follows an acute or chronic course characterized by nonproductive cough, exertional dyspnea progressing to dyspnea at rest, chest pain, weight loss, fatigue, and weakness. Hemoptysis is rare. The physical findings are nonspecific and include cyanosis; increased respiration rate; clubbing of fingers; dry, crackling rales; accentuation of the pulmonic second heart sound; peripheral edema; hepatomegaly; and increased venous pressure.[12,19]

The diagnosis is confirmed by lung biopsy which may show different stages of the disease in the same case. In the early

1. Routine posteroanterior admission chest film showing diffuse miliary and nodular diffuse intra-alveolar and interstitial pulmonary infiltrates.

2. Microscopy reveals interstitial fibrosis with chronic inflammation consistent with idiopathic interstitial pulmonary fibrosis.

proliferative stage, inflammatory cells are prominent within the alveolar walls, ducts, and peribronchiolar tissues. Proliferation and metaplasia of the alveolar wall is noted. The walls are irregularly thickened, reducing the size of the alveolar space. Venous dilatation, bronchiolar fibrous stenosis, emphysema, and cyst formation are also present. In the later stages, alveolar epithelial metaplasia may be striking and simulate neoplastic gland formation. In the final stages, the lung is dense and contracted by fibrosis.[19]

The treatment for Hamman-Rich syndrome consists of the usual symptomatic therapy and adrenal cortical steroids. The results are variable. Most agree that treatment should be started early in the disease process if it is to be effective.

Routine roentgenograms of the chest show diffuse bilateral increase in the linear lung markings which have a fine reticular pattern, consistent with interstitial pulmonary fibrosis. There is no evidence of hilar lymphadenopathy or of pleural effusion. Chronic cor pulmonale is frequently present, and the bony thorax is normal. The interstitial fibrotic pulmonary changes are progressive, and are well appreciated on follow-up serial chest films.

Prognosis is invariably fatal, survival time ranges from several weeks to several years after the diagnosis is made. The disease is usually acute and quickly fatal in the pediatric patient. In older patients the disease may follow a chronic course. One investigator with a series of 12 patients reported that two of them survived for 15 years.

Summary and Conclusion

A case of Hamman-Rich syndrome is reported; the patient had a history of chronic

exposure to sawdust. A short review of the literature is included in this report. Hamman-Rich syndrome is an unusual chronic pulmonary disease which produces interstitial pulmonary fibrosis. Many etiological factors appear to contribute to the development of this entity. Additional research is needed to clarify the pathophysiologic aspects of Hamman-Rich syndrome.

References

1. Cohen HI, Merigan TC, Kosek JC, et al: Sequoiosis. Agranulomatous pneumonitis associated with redwood sawdust inhalation. Amer J Med 43:785-794, 1967.

2. Fox B, Risdon RA: Carcinoma of the lung and diffuse interstitial pulmonary fibrosis. J Clin Path 21:486-491, 1968.

3. Friedberg EC, Rubenstein AH, Galasko CSD: A case of Hamman-Rich syndrome presenting with severe weight loss. J Lancet 84:271-273, 1964.

4. Gross P: The concept of the Hamman-Rich syndrome, a critique. Amer Rev Respir Dis 85:828-832, 1962.

5. Hamman L, Rich AR: Acute diffuse interstitial fibrosis of the lungs. Bull Johns Hopkins Hosp 74:177-212, 1944.

6. Hamman L, Rich AR: Fulminating diffuse interstitial fibrosis of the lungs. Trans Amer Clin Climatol Asso 51:154-163, 1935.

7. Herbert FA, Nahmias BB, Gaensler EA, et al: Pathophysiology of interstitial pulmonary fibrosis. Report of 19 cases and follow-up with corticosteroids. Arch Intern Med 110:628-648, 1962.

8. Holland RA, Blacket RB: Pulmonary function in the Hamman-Rich syndrome. The abnormalities of ventilation, blood gases and diffusion at rest and on exercise. Amer J Med 29:955-966, 1960.

9. Hughes EW: Familial interstitial pulmonary fibrosis. Thorax 19:515-525, 1964.

10. Kuisk H, Sanchez JS: Diffuse bronchiolectasis with muscular hyperplasia ("muscular cirrhosis of the lung"). Relationship to chronic form of Hamman-Rich syndrome. Amer J Roentgenol 96:979-990, 1966.

11. Livingstone JL, Lewis JG, Reid L, et al: Diffuse interstitial pulmonary fibrosis. A clinical, radiological, and pathological study based on 45 patients. Quart J Med 33:71-103, 1964.

12. Marks A: Diffuse interstitial pulmonary fibrosis. Med Clin N Amer 51:439-457, 1967.

13. Muschenheim C: Some observations on the Hamman-Rich disease. Amer J Med Sci 241:279-288, 1961.

14. O'Shea PA, Yardley JH: The Hamman-Rich syndrome in infancy: report of a case with virus-like particles by electron microscopy. Johns Hopkins Med J 126:320-336, 1970.

15. Pan LH: Hamman-Rich syndrome. Idiopathic pulmonary interstitial fibrosis of the lung. J National Med Asso 61:8-12, 1969.

16. Read J: The pathogenesis of the Hamman-Rich syndrome. Amer Rev Tuberc Pulmon Dis 78:353-367, 1958.

17. Rubin EH, Lubliner R: The Hamman-Rich syndrome: review of the literature and analysis of 15 cases. Medicine 36:397-463, 1957.

18. Sanen FJ, Busiek RD, Johnson HA: Acute, diffuse, interstitial fibrosis of the lungs. Report of a case. Dis Chest 37:444-448, 1960.

19. Sheridan LA, Harrison EG Jr, Divertie MB: The current status of idiopathic pulmonary fibrosis (Hamman-Rich-syndrome). Med Clin N Amer 48:993-1010, 1964.

20. Spencer H: Interstitial pneumonia. Ann Rev Med 18:423-442, 1967.

21. Swaye P, Van Ordstrand HSV, McCormack LJ, et at: Familial Hamman-Rich syndrome. Report of eight cases. Dis Chest 55:7-12, 1969.

22. Trivedi SA, Nanavaty JM: Hamman-Rich syndrome. A report of two cases. Indian J Med Sci 19:310-314, 1965.

23. Yarington CT Jr: Unilateral primary interstitial pulmonary fibrosis. Unknown etiology. Arch Intern Med 111:612-619, 1963.

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3. Roentgenogram of the chest taken five days after admission. A pneumothorax developed on the right side. The interstitial and intra-alveolar pulmonary infiltrates are accentuated, and the heart is enlarged.

Is myasthenia gravis an autoimmune disease?

John W. Chriss, MD

This is primarily a case report with review of the literature. The patient, a 44-year-old woman, had the onset of symptoms of muscular weakness about Jan 15, 1971. The initial diagnosis of myasthenia gravis was made on Feb 5, 1971, after the patient had been hospitalized for a hysterectomy three days earlier. The surgeon obtained neurologic consultation and prescribed Mestinon, which afforded relief, but the Mestinon was discontinued when the patient was discharged from the hospital. Muscular weakness reappeared, plus diplopia and dysphagia. The patient had a myasthenic response to Tensilon. She was treated first with Prostigmin and later with increasing dosages of Mestinon, which produced more satisfactory control. Despite this treatment generalized muscular weakness progressed, and by March 1971 the patient was unable to squat or to arise from the sitting position. Finally, the Mestinon dosage was increased to 120 mg every three hours; even so, inadequate muscular control persisted.

The patient repeatedly resisted referral to a large medical center. The severity of her symptoms increased, and she was finally hospitalized on Dec 27, 1971. Both clinical evidence and Tensilon testing indicated that Mestinon dosage apparently was optimal. The initial intent had been to consider either thymectomy or ACTH therapy. However, after review of presentations at a recent symposium of the New York Academy of Sciences on Myasthenia Gravis,[1] and an article by Engel and Warmolts[2] relative to four patients who were treated with corticosteroid given in a high single dose on alternate days, we decided that corticosteroid therapy would be the safest and wisest course. On Jan 3, 1972, the patient was started on 60 mg of prednisone, and this dosage was quickly raised to 100 mg given once every other day, with 10 mg used on alternate days. Concurrently, Mestinon was decreased from 120 mg to 90 mg every three hours. This was done to lessen the chance of cholinergic crisis in case her need for Mestinon should decrease. Altering the Mestinon dosage (down and then back up to 90 mg every three hours) was attempted during the next three weeks, but the patient's condition became worse instead of better. Clinically, this worsening was not the result of excess Mestinon, and always seemed to be related temporally to decrease of Mestinon dose. Slight improvement was noted when the Mestinon dose was increased back to 90 mg every three hours. Finally, after three weeks, gradual, progressive, and unequivocal improvement began. The patient became able to eat unassisted, to cross her legs without help on Feb 6, 1972, and on Feb 15 was able to lift herself up off the commode for the first time in eight months. This improvement continued up to and after her hospital discharge on March 2.

At discharge, the prednisone dosage was 100 mg every other day at 8 am with none on alternate days. The Mestinon dosage was 30 mg four times daily on days that prednisone was used, and 60 mg four times daily on the alternate days. Some continuing improvement was noted after hospital discharge, there was no change in prednisone or Mestinon dosage except that on some of the prednisone days, the patient was able to omit Mestinon completely. No significant early side effects were noted with prednisone except for some acne and some difficulty in controlling the appetite.

Our future plans for treating this patient depend on further reports in the literature. We still hope that the patient

will accept referral to a large medical center.

Discontinuation of prednisone after using it for one to two years sometimes is followed by remission of disease. Engel and Warmolts have now reported five such cases, all with improvement and one with complete remission.[10] Even more recently, Jenkins[11] has reported nine such cases with remission in one patient who had purely ocular signs; return to normal or near normal in seven patients who had generalized weakness; and less benefit in the remaining patient.

This or even superior therapy is forecast to become the treatment of choice not only for severe, but perhaps even for mild myasthenia gravis with possible hopes even for a "cure."[2]

Myasthenia gravis is a disease the cause of which is unknown. It is manifested by impaired neuromuscular transmission with weakness of various muscle groups, but with special predilection for ocular and other cranial muscles. It has a tendency to fluctuate during brief periods of observation (even within a single day), or upon longer observation (remissions or exacerbations),[6] with no signs of neural lesions. Myasthenia gravis is partially reversible by administering anticholinesterase drugs. The immunologic features of myasthenia gravis must be considered before assessing its final etiology:

1. Myasthenia gravis is associated with several diseases with immune stigmata, ie, Graves' disease, thyroiditis, rheumatoid arthritis, and systemic lupus erythematosus. Also, it seems to be associated with an increased incidence of cancer.[3,12]

2. The thymus, which is intimately involved in immune processes, is abnormal in about 80% of patients with myasthenia gravis who do not have thymoma with thymic hyperplasia (germinal centers in the medullary region of the thymus).[4] Ten percent of all patients with myasthenia gravis have associated thymoma. About one-third of the patients with thymoma have associated myasthenia gravis.[12]

3. Thirty or forty percent of patients have antibodies not only against muscle but perhaps also against thymus, which normally contains muscle-like cells.[12,13]

4. An experimental model has been developed, using rats or guinea pigs with syngenic or xenogenic thymic tissue or muscle, and complete Freund adjuvant; thymitis develops in the model. Immunoflourescence studies demonstrate antibodies in the thymus. Some of the animals also have impaired neuromuscular transmission. It is postulated that as a result of thymitis, thymin (a polypeptide) is released and causes a defect in neuromuscular transmission.[5,12] Another polypeptide (thymotoxin) also has been identified, and it may cause the myopathy in myasthenia gravis.[5,12] Two groups have successfully produced this experimental model; others have not been able to do so.[12] With this model available, Witebsky's postulates for autoimmune disease may be fulfilled.

Therapy in Myasthenia Gravis

Anticholinesterase drugs (Prostigmin, Mestinon, Mytelase) are given to improve the impaired neuromuscular transmission by enhancing the effective synaptic levels of acetylcholine. The results are improved function to 80-95% of normal in 25% of patients, but also grossly inadequate results are found in another 25%.

If thymectomy is performed, the transcervical method is preferred. Sternum splitting surgery is thought to be associated with a greater morbidity.[7,14]

Thymectomy is indicated in patients whose disease is poorly controlled despite large doses of anticholinesterase, whose disease is of short duration (< 2 years), and especially in young patients and in women. Excellent results are achieved in up to 80% of such cases, but may take years to occur. Thymectomy also is indicated in patients with thymoma, but the results are not as good as they are in patients who do not have thymoma.

Contraindications to thymectomy include old age and long duration of disease (> 5-7 years). If the patient has had immunosuppressive therapy, thymectomy is contraindicated. Some of the immunosuppressive agents are: (1) ACTH, 100 units/day/10 days, almost invariably causes symptoms to worsen before they improve.[15,16] Tracheostomy is often indicated before institution of therapy, together with strict patient supervision. (2) With corticosteroid therapy, essentially as described herein, and ACTH, the anticholinesterase dose should be decreased to avoid cholinergic crisis. Relatively short duration (< 2 years) of myasthenia gravis symptoms is also preferable for optimal results. (3) Other immunosuppressive agents include 6-MP, cyclophosphamide, and azathioprine.[12,13] These are rarely used alone, and valid data are not yet available. Previous radiation therapy for myasthenia gravis is a contraindication to thymectomy, as is treatment with germine monoacetate and diacetate. These drugs seem to add to, or potentiate, anticholinesterase effect without increasing the danger of cholinergic crisis. Their toxicity is still undetermined, and they are not released for general use.

Summary

Myasthenia gravis is associated with immune stigmata and may eventually be characterized as an autoimmune disease. In a limited number of reported cases, therapy with corticosteroids recently has met excellent initial, although as yet short-term, success.

Long-term results are as yet undetermined. Alternate day, single high-dose therapy is used in an attempt to minimize side effects which may be a prime determining factor in the final role of these drugs in treating myasthenia gravis.

Addendum

After use of prednisone in this case for almost 11 months, the patient has continued to maintain good muscle strength, but has developed more obvious evidence of hypercorticism. She has returned to work, and is now taking 40 mg of prednisone on alternate days, but still uses Mestinon, 60 mg, three doses every other day (on the day when no prednisone is used). The prednisone dosage currently is being reduced with no problems as yet being encountered by such reductions.

References

1. Fields WS: Myasthenia Gravis: Perspectives. Ann NY Acad Sci 183:3-4, 1971.

2. Engel WK, Warmolts JR: Myasthenia gravis: A new hypothesis of the pathogenesis and a new form of treatment. Ann NY Acad Sci 183:72-87, 1971.

3. Yunis EJ, Stutman O, Good RA: Thymus, immunity and autoimmunity. Ann NY Acad Sci 183:205-220, 1971.

4. Mellors RC: Leukemia virus and autoimmune disease of NZB mice. Ann NY Acad Sci 183:221-229, 1971.

5. Goldstein G, Manganaro A: Thymin: a thymic polypeptide causing the neuromuscular block of myasthenia gravis. Ann NY Acad Sci 183:230-240, 1971.

6. Simpson JA: A morphological explanation of the transmission defect in myasthenia gravis. Ann NY Acad Sci 183:241-247, 1971.

7. Perlo VP, Arnason B, Poskanzer D, et al: The role of thymectomy in the treatment of myasthenia gravis. Ann NY Acad Sci 183:308-315, 1971.

8. Schulz MD, Schwab RS: Results of thymic (mediastinal) irradiation in patients with myasthenia gravis. Ann NY Acad Sci 183:303-307, 1971.

9. Genkins G, Kornfeld P, Osserman KE: The use of ACTH and corticosteroids in myasthenia gravis. Ann NY Acad Sci 183:369-374, 1971.

10. Warmolts JR, Engel WK: Benefit from alternate-day prednisone in myasthenia gravis. N Engl J Med 286:17-20, 1972.

11. Jenkins RB: Treatment of myasthenia gravis with prednisone. Lancet 1:765-767, 1972.

12. Management of myasthenia gravis. Lancet 1:780-781, 1972.

13. Armstrong RM: Immunologic mechanisms in neurologic diseases. Med Clin N Am 56:515-527, 1972.

14. Seybold ME, Howard FM, Jr, Duane DD, et al: Thymectomy in juvenile myasthenia gravis. Arch Neurol 25:385-392, 1971.

15. Shapiro MS, Namba T, Grob D: Corticotropin therapy and thymectomy in management of myasthenia gravis. Arch Neurol 24:65-71, 1971.

16. Namba T: Corticotropin therapy in patients with myasthenia gravis: Electrophysiologic, physiologic studies. Arch Neurol 26:144-150, 1972.

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Mild anticholinergic action—Pro-Banthine® Half Strength, 7.5-mg. tablets, for more exact adjustment of maintenance dosage in mild to moderate gastrointestinal disorders.

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Contraindications: Glaucoma, obstructive disease of the gastrointestinal tract, obstructive uropathy, intestinal atony, toxic megacolon, hiatal hernia associated with reflux esophagitis, or unstable cardiovascular adjustment in acute hemorrhage.

Warnings: Patients with severe cardiac disease should be given this medication with caution.

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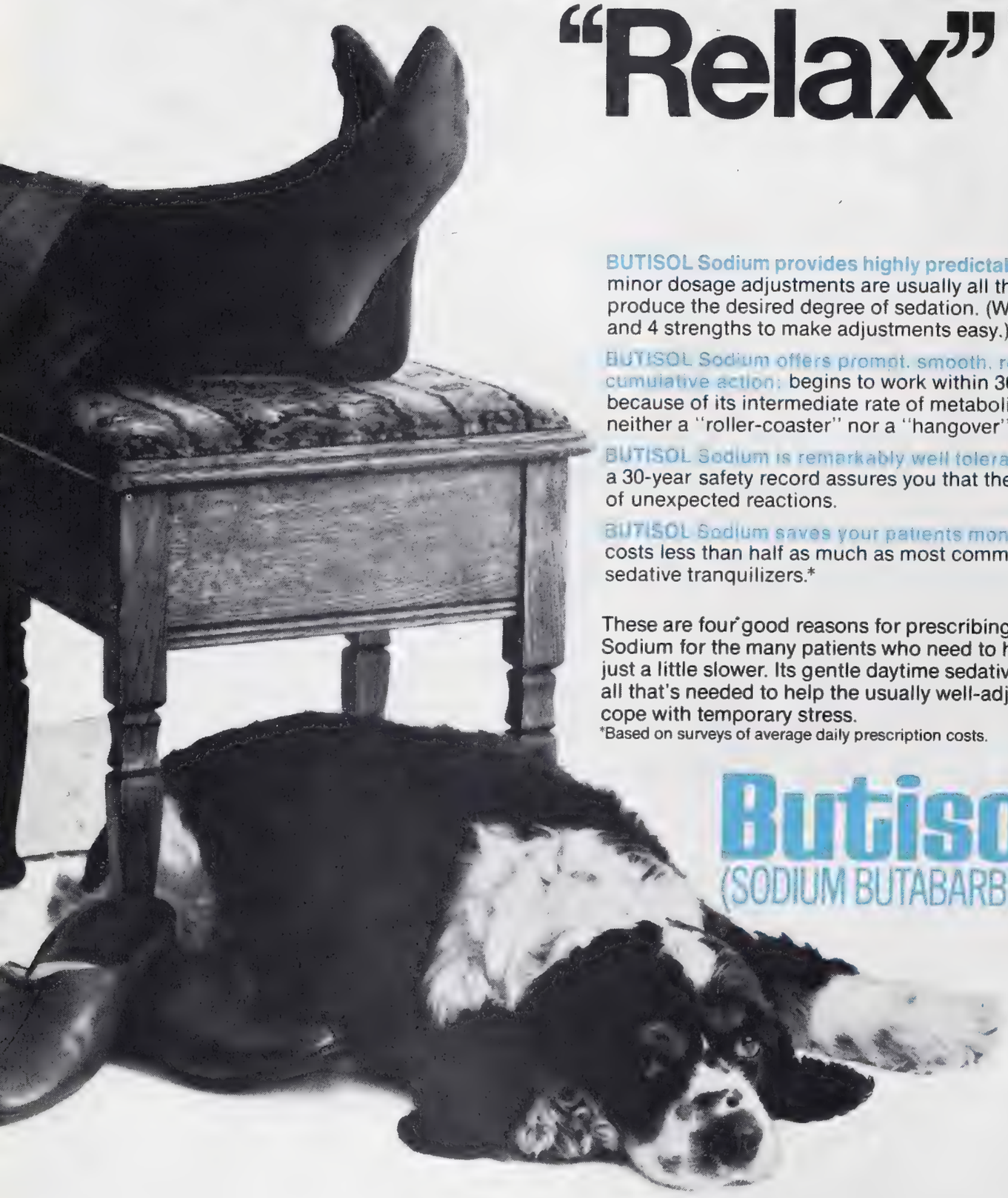

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Absence of cognitive deficits from bilateral cingulotomy for intractable pain in humans

Timothy Sharma, MD

The literature on bilateral anterior cingulotomies performed for intractable pain, depression, anxiety, obsessive-compulsive behavior, and experimental work on opiate addiction is reviewed. In the treatment of patients with intractable pain, anxiety, and depression, a definite beneficial effect by the use of anterior cingulotomy has been observed. The open craniotomy method is superior to the closed stereotaxic procedure which leaves patients with cognitive deficits. We have not observed any cognitive deficits in our patients. In our observations, the opiate hunger of one of our patients was completely abolished with anterior cingulotomy. The significance of this phenomenon could have far-reaching effects.

Modern psychosurgery began when Moniz[1] first proposed destruction of nervous pathways in frontal lobes as a form of treatment for certain psychiatric disorders. During the ensuing four decades, the support for this form of treatment has been enthusiastic at times and very much in doubt at other times.[2,3] However, certain psychiatric disorders such as severe obsessive-compulsive neuroses,[4] unmanageable affective reactions,[5] intractable pain,[6] and opiate addictions[7,8] have been controlled or alleviated by bilateral anterior cingulotomies. Along with the beneficial effects derived from this surgical procedure, cognitive deficits were observed.[9] Various tests[9,10] were devised to evaluate and measure the degree of cognitive deficit in patients who received bilateral anterior cingulotomies. Perhaps the most comprehensive evaluation was done by Faillace et al, using five different tests including digit span, the word association test, the Porteus maze test, the digit symbol substitution test, and the tapping test. The cases observed by Faillace et al[9] had bilateral stereotaxic cingulotomy rather than the open craniotomy method. Good results were observed by Paillas et al[4] in 15 cases of anterior cingulotomies done by the open craniotomy method; severe obsessive-compulsive neuroses were alleviated and there was no evidence of any intellectual deficiency or amnesia. The patients evaluated by Faillace et al[9] definitely indicated some degree of cognitive deficit when the closed bilateral stereotaxic surgical procedure was used. This article shows that it is possible to perform bilateral anterior cingulotomy for cases of intractable pain with anxiety and depression using the open craniotomy surgical procedure. The patient is left with no cognitive deficits.

Case Reports

Two patients were treated using the open craniotomy method. The site of surgery was the anterior section of the cingulum bundle, 3.5 to 4 cm posterior to the tip of the frontal horn.

Case 1: A 32-year-old housewife with three children had undergone surgical procedures within the previous two years for severe upper abdominal pain. Following these surgical procedures which included a pancreatectomy, drainage of several cysts and repair of pancreatic fistulae, resection of small intestine, and freeing of intestinal adhesions, the patient was left with severe upper abdominal and lower thoracic pain. The pain followed the distribution between the tenth thoracic segment and the second lumbar segment. The patient was severely incapacitated by the incessant intractable pain. Clinically she was unable to perform her household work, take care of her children, or have sexual intercourse. Most disturbing, she was un-

able to eat without severe excruciating pain in the epigastric area. The patient experienced her greatest pain when she drank cold water or ate any cold food. Attempts were made to treat the pain with analgesics. The patient soon began using large doses of opiates intramuscularly every two or three hours in order to relieve her pain. When the patient was first referred for neurosurgical consultation, a mental status examination revealed that, in addition to the severe intractable pain, considerable tolerance to the opiate drugs and a moderately severe degree of addiction to the euphoric effects of the opiates had developed. Further investigation of the patient's life style indicated that she had been a neat, clean, tidy, moderately obsessive-compulsive housewife, and an anxious individual. Cingulotomy was recommended. The patient had presented with severe intractable pain, obsessive-compulsive features, anxiety, and severe depression. Psychological tests and mental status examinations of the patient prior to the surgical procedure revealed that there was no evidence of any cognitive deficit or any evidence of a thought content disorder.

Case 2: A 40-year-old married housewife with three grown children suffered low lumbar pain for the past ten years. She had several orthopedic surgical procedures done on her lumbar spine, but continued to suffer from severe intractable pain which was made worse by walking or by any movement involving her legs or trunk. The patient was finally told by her orthopedic surgeons that no further orthopedic procedures could be done because of the risk of paraplegia and loss of sphincteric control. This patient also was treated for intractable pain with large doses of opiates. However, she did not become addicted to the opiates; she preferred to lie immobile in bed for days in order to avoid pain rather than take large doses of opiates. Since her last orthopedic procedure she had led a psychologically crippling existence, leading to a moderately severe reactive depression and chronic anxiety. At the time of neurosurgical and psychiatric consultation, this patient also showed no evidence of any cognitive deficit or any thought content disorder.

Procedure

Both patients were treated by open craniotomy and bilateral cingulotomy 3.5 to 4 cm posterior to the tip of the frontal horn, an area corresponding to Broca's area 24 of the cingulate gyrus. Both patients recovered satisfactorily within a matter of days, and showed no untoward physical sequelae.

Results

Relief from pain as judged by the patients' subjective reports of their symptoms was found in both cases. There was no longer any need for any type of analgesics. The patients no longer complained of any incapacitating pain and discomfort. In addition, there was alleviation of anxiety, depression, and obsessive-compulsive behavior.

Case 1: The patient, who was moderately severely addicted to large doses of opiates and suffered intractable pain, showed immediate and remarkable relief as judged by her subjective experience of pain in the affected areas. In addition, she no longer had the opiate hunger and addiction which she had showed prior to surgery. She also demonstrated features of mild euphoria with no evidence of any obsessive-compulsive characteristics. The mental status

examination revealed no evidence of any cognitive deficit, amnesia, or impairment of operational and social judgment. The patient's level of anxiety and depression diminished. Improvement of her depressed, anxious mental state contributed to her increased tolerance of subjective experience of pain. This resulted in an overall increase in her feeling of well-being.

Case 2: This patient indicated that she no longer subjectively suffered from intractable lumbar pain. She was euphoric after the operation; this was almost the opposite of her emotional status prior to the operation. A mental status examination revealed no evidence of any cognitive deficit, amnesia, or impairment of operational judgment. She did, however, have a transient, somewhat inappropriate, euphoria lasting for five days following surgery. This euphoric state leveled off to a more appropriate emotional reaction. There was a complete improvement of her chronically anxious depressed mental state.

Discussion

A review of the literature on bilateral frontal cingulotomies shows that there is a place for this surgical procedure in cases of severe intractable pain, severe obsessive-compulsive neurosis, certain affective disorders, and possibly in certain cases of opiate addiction that cannot be treated by more conservative methods.[4-8] The procedure has become common. It is possible that major cognitive deficits can be produced in a closed stereotaxic method of cingulotomy.[9] Therefore, one should review the possible advantages to be gained by the procedure against some of the untoward sequelae that may result. Widespread psychosurgery of this type can lead to the unfortunate situation that was associated with the overuse of psychosurgery about two decades ago.[3]

It is incumbent upon the physician, therefore, to exhaust all conservative methods of treatment before proceeding to stereotaxic cingulotomy.

The open craniotomy method is superior to a closed stereotaxic procedure. Paillas et al[4] have reported satisfactory improvement without any untoward sequelae as was noted in the cases treated with bilateral closed stereotaxic cingulotomies.[9] Similarly the two patients presented in this article have been helped by the open craniotomy method. Thus far, approximately two to three months since the surgery was performed, no cognitive deficits have been observed in our patients. Our patients will receive follow-up examinations periodically.

There appears to be much in favor of an open craniotomy type of surgical procedure. In view of the numerous anomalies that may occur in the brain as well as in its vasculature, one can never be sure (when using the closed stereotaxic method) that one is disrupting the fibers of the cingulum bundle in the desired spot. In addition, the anterior cerebral artery courses closely around the corpus callosum in close proximity to the cingulate gyrus. Any type of blind surgical procedure such as stereotaxic operation, carries with it a great risk of interfering with this major artery. Transient spasms, thrombosis, and even hemorrhage can occur using the blind technique. Any such impairment, even if it is only a transient ischemia of the anterior cerebral artery, can impair its supply to the significant areas of the frontal lobe. This will result in a partial vascular type of frontal lobotomy. It is relatively easy to see that what may appear simply as a bilateral stereotaxic cingulotomy can result in im-

pairment of the vascular supply to the frontal lobe and thus give evidences of a frontal lobotomy; hence, signs of cognitive deficits have been observed in other studies that used this method. The method of choice, which is by far superior to the stereotaxic blind approach, would be an open craniotomy, even though this may appear initially to be an extensive surgical procedure. An open operation in which the surgeon can see exactly what area of the brain he is disrupting may always remain the method of choice.

Both of our patients were still able to recognize pain. They were no longer incapacitated by the pain; they still felt pain but it was bearable. This is extremely important in view of the necessity for recognition of pain during the postoperative existence of the patient. Total abolition of pain would be very unwise because the patient might fail to recognize the warning signals of painful pathological processes in various parts of the body. The cingulotomies lowered the intensity of pain that the patients had experienced recently. In addition, the patients' attitudes toward the pain were more acceptable; in other words they could tolerate pain that was formerly incapacitating and intractable. Previous studies[12,13] of altering the pain threshold by psychosurgery had focused on the total abolition of pain by performing such procedures as thalamotomy and total destruction of the pain centers in the thalamus. In view of the dangers of total abolition of pain, one should not perform such operations for intractable pain. It would appear that in cutting fibers in Broca's area 24 of the cingulum bundle, one interrupts pathways that connect the thalamus with the frontal lobe[11] areas that are concerned with the affective perception of pain. In this way the sensation of pain is not abolished, but the patient's reaction to the pain is greatly modified to the point of being able to tolerate it and live satisfactorily. In both patients a decrease in anxiety, depression, and obsessive-compulsive behavior was observed. This decrease could explain some of the patients' increased tolerance to pain.

References

1. Moniz E: Tentatives Operations dans le Traitement de Certaines Psychoses. Masson et Cie., Paris, 1936.
2. Freeman W, Watts JW: Psychosurgery: Intelligence, Emotion and Social Behavior Following Prefrontal Lobotomy for Mental Disorders. With Special Psychometric and Personality Profile Studies, by Thelma Hunt. Charles C Thomas, Springfield, Ill, 1942.
3. Goldstein D: Frontal lobotomy and impairment of abstract attitudes. J Nerv Ment Dis 110:93-111, 1949.
4. Paillas JE, Chabert G, Alliez B, et al: Reflexions sur la psychochirurgie dans le traitement des névroses obsessionnelles. Sem Hop Paris 47:944-949, 1971.
5. Turnbull F: Neurosurgery in the control of unmanageable affective reactions: a critical review. Clin Neurosurg 16:218-233, 1969.
6. Ballantine HG Jr, Cassidy WL, Flanagan NB, et al: Stereotaxic anterior cingulotomy for neuropsychiatric illness and intractable pain. J Neurosurg 26:488-495, 1967.
7. Foltz EL, White LE Jr: Experimental cingulotomy and modification of morphine withdrawal. J Neurosurg 14:655-673, 1957.
8. Wikler A, Norrell H, Miller D: Limbic system and opioid addiction in the rat. Exp Neurol 34:543-557, 1972.
9. Faillace LA, Allen RP, McQueen JD, et al: Cognitive deficits from bilateral cingulotomy for intractable pain in man. Dis Nerv Syst 32:171-175, 1971.
10. Allen RP, Faillace LA: A clinical test for detecting defects of cingulate lesions in man. J Clin Psychol 28:63-65, 1972.
11. Domesick VB: Projections from the cingulate cortex in the rat. Brain Res 12:296-320, 1969.
12. Spiegel EA, Wycis HT, Szekely EG, et al: Combined dorsomedial, intralaminar and basal thalamotomy for relief of so-called intractable pain. J Int Coll Surg 42:160-168, 1964.
13. Taren J, Gviot G, Deromef, et al: Hazards of stereotaxic thalamectomy. Added safety factor in corroborating x-ray target localization with neurophysiological methods. J Neurosurg 29:173-182, 1968.

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Psychiatric diagnostic center

Robert B. Sheldon, MD

The Psychiatric Diagnostic Center (PDC) is a concept of psychiatric care and diagnosis for individuals who are caught up in the criminal justice system. Most of these individuals are jailed and, prior to being arrested, are in the communities which the law enforcement agencies serve. It is therefore appropriate to consider these mentally abnormal offenders as public health problems. The police and sheriffs operate the jails, but the ultimate responsibility for the care and treatment of inmates who are physically or mentally ill rests upon the public health authority in the community.

PDC provides law enforcement agencies with a psychiatric facility designed to observe, evaluate, and treat psychiatric patients or mentally abnormal offenders while they are in jail. The PDC can remove a large segment of difficult behavioral problems from the work load of law enforcement agencies, while providing better care for all jail inmates whether normal, physically ill, or mentally ill.

Goals

The goal of the PDC is to provide a facility for the proper care and evaluation of individuals thought to be suffering from emotional disturbance. The facility provides for adequate and humane restraint, and for administration of medication as indicated and prescribed by a physician and supervised by a registered nurse.

A unique approach to the handling of psychiatric patients and abnormal offenders is hereby provided due to the fact that cooperative efforts of criminal justice agencies and MH/MR provide for a rational, humane, and accurate diagnosis for people who are emotionally disturbed.

It provides for (1) evaluation of emotionally disturbed individuals, (2) determination of medical care needs, (3) rapid release of patients not in need of psychiatric or medical treatment, and (4) recommendation of treatment for mentally abnormal offenders.

It also provides for separation of emotionally disturbed individuals from the jail population, and thus prevents any serious difficulties arising from their contacts with other jail inmates. This separation benefits jail personnel, relieving them of many problems which they are not trained to handle. The separation protects other inmates and affords protection to the emotionally disturbed. The total number of persons to be treated in the PDC is estimated to be 500.

Procedure

Individuals in need of the services of the PDC will be admitted on a 24-hour basis, seven days a week. The patient is brought to the PDC by means of an emergency warrant (see Section 27, Revised Mental Health Code) or by any law enforcement officer, and are held in this facility while the proper evaluation is conducted.

Individuals are evaluated by a psychiatrist within 24 hours after being admitted. Utilizing the social history, psychological testing, and mental status examination, a decision is reached. If commitment is indicated, an order of protective custody is issued. If not, referral to outpatient care or other social agencies is made. Upon admission, treatment can begin immediately. Proper procedures are instituted to alleviate any detrimental mental or physical symptoms that the patient might have.

Administration

The PDC can easily be a cooperative venture of the various care-taking agencies in the community. These include public health

services, mental health centers, public or private clinics and hospitals, police departments, sheriffs' departments, family service agencies, welfare department, probation departments, and the courts. Coordination should be established with the state mental hospital and any Veterans Administration facilities that are available.

To cite a specific example, a PDC is now in operation in Waco, McLennan County, Texas. It was established by close cooperation between the Mental Health Center and the McLennan County Sheriff's Department. Direct supervision and control is jointly shared by the sheriff and the executive director of the Mental Health Center. The Executive Director is the project director. He is responsible for establishing and supervising all clinical programs, and is directly responsible to a PDC executive board. The board is composed of the project director as chairman, county judge, sheriff, district attorney, criminal justice coordinator, and one local psychiatrist. This board composition could be modified according to local situations. The sheriff retains full control over all operations since all individuals in the PDC are in custody and are the ultimate responsibility of the sheriff. The PDC is located in an air-conditioned, centrally heated separate area of the jail, formerly used for juveniles. Women prisoners are also in this area, but are kept separate from the mentally ill inmates. Fifteen patients can be accommodated in three tanks. All facilities and medications for treatment of mentally ill patients are kept in this area, and psychiatric nursing personnel work here. Physically ill inmates are seen in a public outpatient clinic, emergency room of a public hospital, or are hospitalized. Mildly ill inmates are kept in the regular jail facility. In other situations, a portion of the existing jail might be utilized, or other facilities remodeled to perform these functions. By maximum utilization of these facilities, emphasizing short stay and community oriented methods, and realizing that a part of the patient caseload will be on an outpatient basis, it is anticipated that 500 patients can be processed per year.

Funding

The Waco-McLennan County Mental Health/Mental Retardation Center submitted an application for funds to establish the PDC to the Texas Criminal Justice Council through the Heart of Texas Council of Governments.

The Texas Criminal Justice Council funded the PDC for two years beginning Jan 1, 1971 in the amount of $115,137 for each year. This amount is 60% of the total cost of the program.The additional 40% is provided by the Waco-McLennan County MH/MR Center and the McLennan County Sheriff's Department.

Types of Service

There are three major types of service which can be rendered by the PDC: (1) protective custody of the mentally ill, (2) evaluation and treatment of mentally abnormal offenders, and (3) sanity evaluations for the courts.

Protective Custody

Mentally ill patients usually are difficult problems for public officials, physicians, and family members. Commitment procedures are not well understood by many public officials, law enforcement officers, lay people, and sometimes even attorneys. Under the Texas Mental Health Code, anyone can complain to the county judge, who may issue an emergency warrant or an

order of protective custody (OPC). The county judge usually wants to have a letter or other supporting opinion from one or more physicians before he issues these legal documents ordering the sheriff to take the person into custody. As an alternative to complaint from the family, any law enforcement officer can arrest a person whom he believes to be mentally ill. He must then obtain an emergency warrant from *any* magistrate as soon as possible after the arrest. Most officers hesitate to do this, but it is perfectly legal under Article 27 of the Mental Health Code. Once the person who is mentally ill has been taken intc protective custody, he can be brought to the PDC rather than placed in jail with other inmates.

Mentally Abnormal Offenders

Mentally abnormal offenders are either arrested or detained because of their behavior during or after the commission of some crime. There is often a real question in the officer's mind as to the mental status of the offender. The officer is faced with the question of what to do with the individual. An officer cannot evaluate mental status; that is a matter of judgment by a physician after social history has been obtained, and psychiatric examination conducted. Nevertheless, individuals often are encountered when psychiatric clinics and social agencies are closed. They need to be placed in a situation in which they can be controlled, receive medication if necessary, and closely observed. Placing them in jail often is detrimental because they may remain there indefinitely without treatment.

The individual who has been placed in the PDC can be evaluated in the routine course of daily activities in the center, and a determination made as to whether he is suffering from emotional difficulties or a physical disability affecting his mental status, or that he does not need further psychiatric care. The PDC, therefore functions as a holding unit for undiagnosed offenders and provides proper and safe care for them.

Evaluation of Sanity

A third category of individuals in need of psychiatric evaluation are offenders who have been placed in jail for various offenses and need psychiatric evaluation in relation to the offense they committed. Their sanity will be determined as defined by the McNaughton rule. The preceding psychiatric evaluations could be used by both the defense and prosecuting attorney in preparing a proper case for the offender.

The PDC should be available to all law enforcement agencies in a county or region. This includes the sheriff's department, all municipal police departments, the Department of Public Safety, and constables of the various precincts. In addition, the district attorney and defense attorney may use the PDC for the evaluation of certain offenders by order of the court. The county judge has available a diagnostic facility that assists greatly in commitment procedures. The district judges can utilize the facility as part of a comprehensive presentence investigation. Proper psychiatric evaluation and casework with the family will reduce mental hospital commitments. Return to the community and family living would be increased, with outpatient treatment at MH/MR facilities continuing as long as necessary.

The Sheriff's Department of McLennan County provides for security and feeding the individuals placed in the PDC, and provides assistance in evaluating individuals as needed. Close liaison between MH/MR and the Sheriff's Department is maintained

due to the joint cooperation necessary to adequately operate the PDC.

Provision for transportation of patients on a local basis to hospitals and clinics, as well as transportation to the Austin State Hospital, was provided by creating the new position of mental health technician, who is commissioned as a deputy sheriff especially for these duties. An unlabeled station wagon is essential to implement this program. One advantage to law enforcement agencies is to circumvent waiting at hospitals for offenders to be examined. An arresting officer can return to duty immediately after delivering the patient to the PDC.

A jail matron is necessary to care for the special needs of female prisoners. Her schedule is flexible in order to provide for coverage as the need arises. A licensed vocational nurse has been employed to serve in several areas of function.

Physical illness may be a causative factor in bizarre behavior or precipitating mental illness. For this reason, medical evaluation is a part of this program. Proper medical care is obtained from two part-time physicians employed by the program.

The position of medical assistant is established in order that physical evaluations of all jail inmates will be done on a daily basis. The medical assistant is commissioned as a deputy sheriff. The medical assistant is a paramedical assistant trained in the military service. He performs only routine care and evaluation of jail inmates, and refers all serious cases to a physician.

Four nursing attendants are employed to render proper nursing care to the patients of the PDC on a 24-hour basis. They assist the psychiatric case aides in gathering information from the patients and will also participate in the evaluation and therapy programs of the PDC.

Three psychiatric case aides are responsible for obtaining complete social histories through interview of the patients, family, and relatives.

A secretary is responsible for all clerical duties at the PDC. She works closely with the county judge's office in preparing necessary papers for the commitment process.

A doctor of medicine, specializing in psychiatry, was employed. He is responsible for the evaluation and preparation of final reports on all patients. He supervises all evaluation and/or therapy programs in the PDC, and assists the project director in implementing policy, program, and procedures. All clinical functions of the PDC are under his direct supervision.

The director of social work services at the MH/MR center functions as assistant project director of the PDC. The assistant project director supervises all administrative functions of the PDC and assists the project director in all phases of the operation of the PDC.

A clinical psychologist employed by the MH/MR Center directs all phases of psychological testing of patients in the PDC. In some instances he provides individual counseling and participates in group therapy sessions.

Summary

The PDC (1) provides adequate care and proper observation of patients while a determination for commitment is made by social history, psychological evaluation and psychiatric examination; (2) holds for observation any mentally abnormal offender and obtains medical and/or psychiatric treatment if necessary; and (3) provides a facility for the district judges, county judge, district attorney, and defense attorney to obtain psychiatric examination for pretrial or posttrial sanity hearings or to aid in presentencing evaluations.

The PDC separates mental patients from jail inmates. Better methods of medical care for all jail inmates, both male and female, are afforded. Psychiatric treatment can be initiated upon admission and improved psychiatric evaluations can be made, with many patients being able to remain in the community rather than being sent to mental institutions.

Dr. Sheldon, Chief of Psychiatry, Big Spring State Hospital, PO Box 231, Big Spring, Tex 79720.

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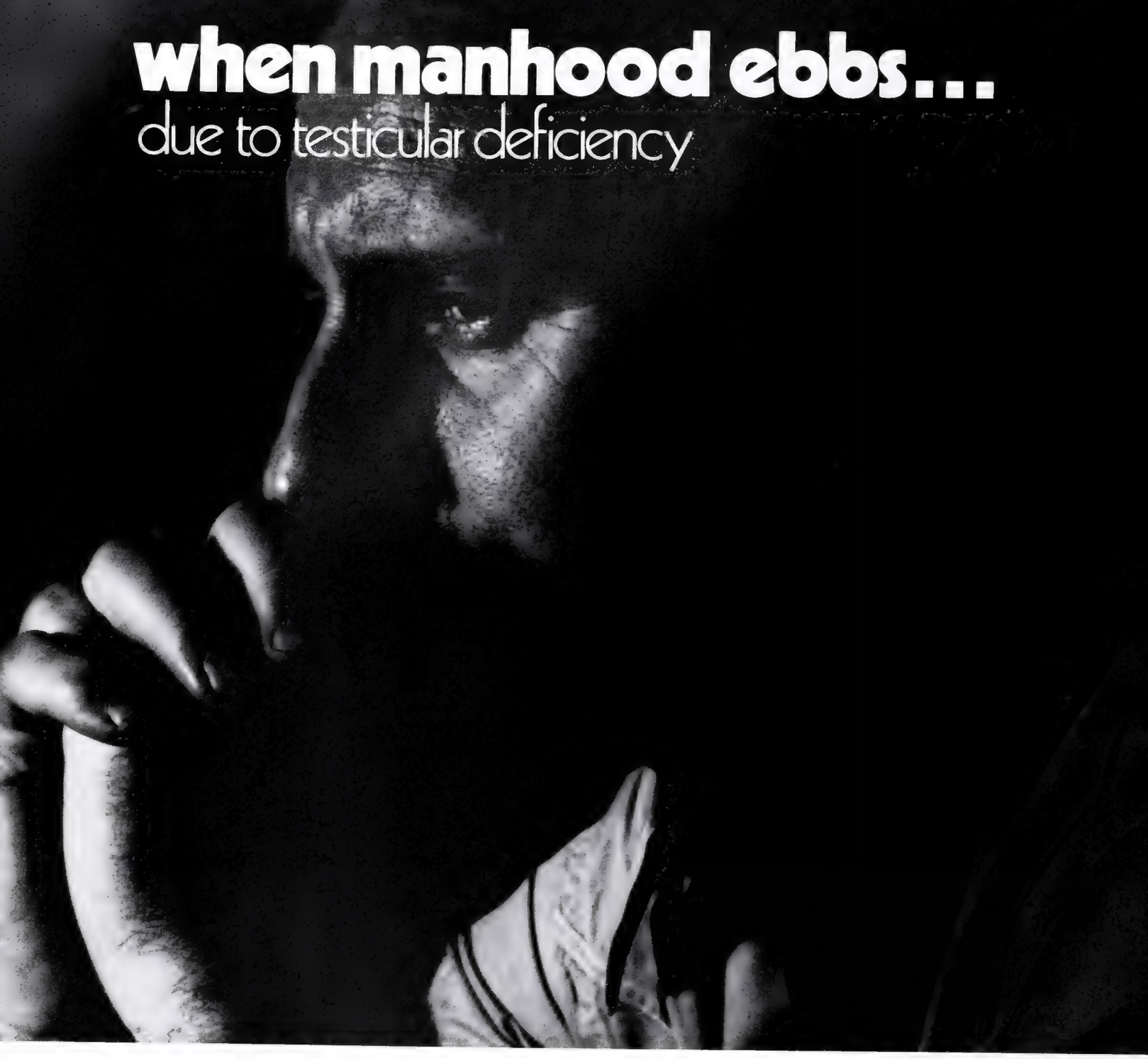

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Pediatric grand rounds: Regional enteritis

A. A. Mintz, MD, Guest Editor; George D. Ferry, MD

This presentation centers around an 11-year-old boy with periumbilical abdominal pain who, on x-ray and at exploratory laparotomy, demonstrated regional enteritis of the duodenum. This seemingly rare disease is now being diagnosed with greater frequency in this medical center. The various areas of bowel involvement and the associated symptoms are discussed. The prognosis is good with respect to relief of the acute symptoms, however the chronicity of this condition requires long-term medical and sometimes surgical management.

Protocol

An 11-year-old white boy was admitted to Texas Children's Hospital with complaints of malaise, anorexia, vomiting, and a 28-lb weight loss in four months. He had been having night sweats and chills with nightly temperatures of 99-102 F. He also had cramping, nonradiating, periumbilical abdominal pain which was relieved by bland foods and antacids. He had no diarrhea, constipation, melena, or specific food intolerance.

On admission, he was well developed and well nourished despite the weight loss, and he was in no distress. The vital signs were normal except for a temperature of 100.6 F. The pertinent physical findings were a slightly distended abdomen with diffuse tenderness to direct pressure. The bowel sounds were normal and there was no hepatosplenomegaly.

Laboratory values included: hemoglobin 13.1 gm/100 ml; WBC 7,000 with a normal differential; platelets adequate in number; and sedimentation rate was 29 mm/hr. The results of urine analysis were normal. A roentgenogram of the chest was normal. Values for electrolytes, amylase, SGOT, LDH, and febrile agglutinins were within normal limits. The rheumatoid arthritis latex and VDRL were nonreactive. A lupus erythematosus cell preparation and cephalin-cholesterol flocculation test were negative. Total serum protein was 5.2 gm/100 ml with an albumin of 1.7 gm/100 ml. Bone marrow aspirate showed no disease.

An upper gastrointestinal series showed dilatation and irregularity of the duodenum with edematous mucosa. Three stool specimens contained no blood, ova or parasites, amoebae, or pathogenic organisms, and the pH on each stool was 6.5. Stool excretion of Cr^{51} albumin was normal, as was the result of a d-xylose test.

The patient was treated with a bland diet, Mylanta, and belladonna. Temperatures spiked daily to 101.6 F and abdominal pain and vomiting continued. On the 12th day after admission, he had an exploratory laparotomy, and a biopsy specimen of the jejunum was taken. A lymph node and a small segment of intestine were submitted for pathologic examination. The lymph node showed a granuloma with a hyperplastic center. The bowel specimen showed an ulcer and intense inflammation, the ulcer extending deep into the submucosa. There was a granuloma in the bowel wall. Pathologic change was that of regional enteritis. After surgery, the patient was treated and subsequently became afebrile. The abdominal pain and vomiting subsided. A five-year follow-up revealed the patient to be symptom-free.

Dr. George D. Ferry, Pediatric Gastroenterologist

This case is one of many that we are accumulating on the gastroenterology service. The pertinent history that points to a specific diagnosis is loss of appetite, significant weight loss, vomiting, fever, and periumbilical cramping pain relieved by a bland diet and antacids. The associated findings are diffuse abdominal tenderness and significant laboratory abnormalities, including an elevated erythrocyte sedimentation rate, low serum albumin value, and

abnormal duodenal mucosa seen on x-ray examination of the upper intestinal tract. When one encounters this clinical picture, Crohn's disease or regional enteritis of the duodenum should be suspected.

The history of regional ileitis dates back to 1932 when Crohn, Ginsberg, and Oppenheimer described granulomatous inflammation of the small bowel producing diarrhea, lower abdominal pain, fever, weight loss, anemia, frequent symptoms of obstruction, and fistulas usually of the terminal ileum. During the following few years similar symptoms were found with granulomatous inflammation in other areas of the intestine. There were often skip areas of normal bowel between diseased areas; however, rare case reports of Crohn's disease involving the entire upper and lower intestinal tract, including the esophagus and stomach, are on record. This disorder may also involve all or part of the colon and must be differentiated from ulcerative colitis.

The general term "inflammatory bowel disease" is commonly used to include Crohn's disease, whether it involves upper or lower intestine, colon, or rectum. Specific terminology for Crohn's disease is often used to designate the areas involved with granulomatous inflammation. Such terms as jejunitis, ileitis, jejuno-ileitis, colitis, ileocolitis, etc are helpful in describing specific cases. Another form of granulomatous inflammation is acute regional ileitis which may be a separate entity but at least has similar pathological findings. Crohn's disease of the colon may be termed granulomatous colitis, or transmural colitis, which is more descriptive of the involvement of all layers of the bowel wall, in contrast to ulcerative colitis which is a more superficial mucosal disease. It has also been termed segmental colitis to separate it from ulcerative colitis, because the disease tends to have skip areas and often spares the rectum.

The classic bowel specimen demonstrates hyperemia, enlarged lymph nodes, and mesenteric fat surrounding the circumference of the bowel. The diagnosis can be made from the gross appearance. When the bowel is opened, one sees deep fissures between hypertrophied mucosa. These fissures lead to many complications when they extend through the bowel wall, creating intense inflammation on the peritoneal surface resulting in adherence of loops of bowel and internal fistulas. The same process will lead to perforation through the abdominal wall to form external fistulas. Free perforation is somewhat unusual, but fistulous tracts are common. Microscopically, there is thickening of the bowel wall with ulceration, exudate, and islands of hyperemic mucosa. A cross-section of bowel shows some evidence of a villous pattern, but primarily inflammation, especially in the crypts, where there is a streaming of inflammatory cells through the entire bowel wall. The diagnostic pathological finding in Crohn's disease is a granulomatous type of inflammation underlying a normal villous pattern. Granulomas are found in about 50% of cases of Crohn's disease and require serial sections for the identification. Since this disease involves the mesentery and lymphatics, granulomas involving lymph nodes are common. Surgeons are reluctant to take specimens from involved intestine because of the high incidence of fistulous tracts. The gross appearance of the bowel associated with granulomas in regional nodes are diagnostic without bowel biopsy.

The mechanisms for the development of this pathological process and the cause of the disease is unknown. This disease in-

volves the bowel itself, the mesentery and its lymph nodes. The process may start as a mesenteric lymphadenitis with lymphatic obstruction and subsequent fibrosis, scarring, and ulceration. Another possibility is granulomatous lymphangitis that involves both bowel wall and lymph nodes. A third suggestion begins with submucosal telangiectasia which progresses to fibrosis, ulceration, inflammation, and infection. Finally, this disease may originate in Peyer's patches or lymphoid follicles in the bowel wall. In animal experiments obstruction of lymphatics produces a similar disease, suggesting that this disease may begin in the lymphatics and spread to the bowel wall. It certainly is not just a superficial ulceration as is seen in ulcerative colitis. Epidemiological studies of Crohn's disease are most interesting. There are approximately two to four new cases per 100,000 population per year. The most common ages involved are between 20 and 40, so this is generally a disease of young adults. Six to 14% of all cases occur in children and begin in infancy, although it is more common in persons over 10 years of age. There is no sex difference but there is some increased risk in the Jewish population, with a four to seven times higher incidence. The disease is less common in Negroes. There is some evidence of a genetic role in this disease, since 11% of patients have a family history of inflammatory bowel disease, which often includes an equal number of cases of Crohn's disease and ulcerative colitis.

The specific cause of Crohn's disease is complete mystery. Many bacteria have been sought, but the only reports of positive cultures have come from cases of acute regional ileitis involving the terminal ileum. Most of these have been from Europe and have not been confirmed in this country. Limited viral studies have been undertaken and have been unrevealing, although epidemics of adenovirus and group B Coxsackie virus have been associated with an increased incidence of Crohn's disease. Serologic studies and tissue cultures of involved bowel and lymph nodes have failed to uncover an agent. There has been interest in atypical mycobacteria as well as sarcoidosis, which has a noncaseating granuloma. It was suggested at one time that there may be lysogenic phage-infected mycobacteria responsible for both sarcoid and regional enteritis. This has not been proved. There are reports showing that most patients with Crohn's disease have positive results of Kveim test, but the opposite results have also been reported. Recently, a number of patients had homogenates taken from nodes and involved bowel. This material was injected into a mouse foot pad with subsequent development of granulomatous inflammation as well as positive Kveim reaction. This is the first time that transmission of the disease process has been reported.

Certain immunological factors seem to be apparent in Crohn's disease, but so far there is nothing to suggest a primary role for such factors. There is a depressed lymphocyte response to phytohemagglutinin and tuberculin reactivity is frequently lost. Circulating lymphocytes are toxic for colonic epithelium and this toxicity is lost within 10 days after diseased bowel is removed. This toxicity can be induced in normal lymphocytes by serum from patients with both Crohn's disease and ulcerative colitis. There are anticolon antibodies present in the serum of patients with inflammatory bowel disease, but these antibodies show some immunological properties similar to *Escherichia coli* type 014 and to some

of the blood group antibodies. Although specific for colon epithelium, they are present in patients who have both colon disease and small-bowel disease. There have been many suggestions about antigenic material that is absorbed into the intestinal tract and lymphatics setting up either an immediate or delayed hypersensitivity reaction. No such antigen has ever been found.

In summary, there is a genetic predisposition, there is some evidence of altered immunity, and there are probably environmental factors as yet unidentified, that eventually bring about the onset of Crohn's disease. Psychiatric problems have to be mentioned but studies have not been consistent. Emotional disorders most likely have nothing to do with the onset of Crohn's, but like any other disease they can alter the response to treatment and the long-term outlook for these patients.

There are clinical patterns of Crohn's disease relating to the area of involvement. First, acute enteritis presents with symptoms identical to those of acute appendicitis, and these patients frequently come to surgery within 48-72 hours after onset of their disease. The bowel is edematous and hyperemic in the area of the terminal ileum and the appendix itself looks normal. The appendix can be removed to prevent any future problems, but there is no need to remove the diseased bowel because the recurrence rate is probably low. Most acute ileitis is thought to be just that—an acute disease that disappears and does not recur; however, there are occasional patients who have recurrent disease. Acute ileitis accounts for 3-4% of cases of regional enteritis in this country. In Japan, however, 70-90% of the cases are acute regional enteritis and there is a low incidence of other forms of Crohn's disease.

The disease we most commonly see is chronic and recurrent. The duration of symptoms prior to diagnosis may be months to years, depending on the severity and type of symptoms. The most common areas of bowel involvement are terminal ileum, a combination of ileum and jejunum, or ileum and colon. Crohn's disease of the colon or granulomatous colitis is less common and duodenal disease is rare. Intermittent fever is the most frequent presenting symptom. The fever is variable and may be low-grade or may spike to 104 F daily. When combined with arthritis, a mistaken diagnosis of rheumatic fever or rheumatoid arthritis is common. Abdominal pain is present in all cases at some point in the disease. It is usually periumbilical or in the right lower quadrant of the abdomen. Weight loss may be significant. Diarrhea is variable, but five to six loose stools daily are common. Ten percent of patients will have no diarrhea during the course of their disease, and even constipation may occur depending on the site of involvement. Gastrointestinal bleeding is less common than in ulcerative colitis; however, occult blood is commonly found and bleeding can, at times, be severe.

The abdominal pain in Crohn's disease may be periumbilical and rather nonspecific, or it may be highly suggestive of inflammatory bowel disease. The patient who has intermittent cramping pain precipitated by meals is most characteristic of Crohn's disease. If one recalls the pathology, it can be readily appreciated how a thickened bowel leads to a narrow lumen and some degree of obstruction. As these patients eat and peristalsis occurs, they get severe cramping. Unless there is colon disease, there is generally no relief of pain with defecation, as is common in ulcera-

tive colitis. If there is a specific area of involvement such as the duodenum, the pain may be just in the epigastrium or right upper abdominal quadrant. Diffuse jejunal involvement may produce pain in the left upper abdominal quadrant. The commonly found ileal disease produces pain not only in the right lower quadrant but frequently a fixed palpable mass. Nausea and vomiting are frequently encountered when partial obstruction occurs in the duodenum or jejunum.

Steatorrhea is present in patients with small-bowel disease. Diffuse disease involving jejunum and ileum may involve enough of the mucosal surface and lymphatics to interfere with fat absorption. If the terminal ileum is severely diseased, bile salts cannot be reabsorbed to complete their enterohepatic circulation, the bile salt pool is decreased, and this eventually leads to difficulty with digestion of fats.

Anorectal disease is suggestive of Crohn's disease whether it involves small bowel or colon. The literature reports 10-80% of cases with anorectal disease; in general, 30% seems more realistic. The anorectal disease presents as perirectal fistulas, abscesses, and chronic nonhealing fissures; and it has been stated that young children who have hemorrhoids may have early cases of regional enteritis. The anorectal disease may occur many years prior to intestinal disease. One patient in our clinic was treated for 15 to 20 years prior to developing classic Crohn's disease in the small intestine. Rectal problems may be severe enough to require multiple surgical procedures and some patients have required a colostomy to divert the fecal stream. Biopsies of the tissue in this area in the early case may or may not show classic granulomas.

Polyarthritis is uncommon in adults, but occurs in about 30% of children. This involves the small joints of the hand, knees, wrists, and ankles. It may be symmetrical and is usually migratory and somewhat fleeting in nature. Polyarthritis may also precede or follow the onset of intestinal disease by many years. There is a high familial incidence of spondylitis. Generally, the arthritis does not leave severe deformity.

Liver disease is not usually present, however a few patients will have slight elevation of the enzymes and alkaline phosphatase. The bromsulphalein determinations show retention in many cases. Of those patients who have had liver biopsies, the findings are mild pericholangitis, some fatty change, and occasionally a mild portal fibrosis. Rarely, granulomas may be seen. Twenty-eight percent of patients have had gallstones at some point in their disease.

Malnutrition is present for many reasons in these patients. The patient presented today lost 28 lb. In addition to impaired fat absorption, there may be multiple vitamin deficiencies. A blind loop syndrome may occur secondary to obstruction, further impairing absorptive ability. Most patients have decreased appetite due to pain after eating. There is an increased metabolic requirement due to the fever. There is loss of protein and blood in the stool. Growth retardation is therefore a common finding in the pediatric patient. In one review of 130 children with inflammatory bowel disease, including both Crohn's and ulcerative colitis, 22% of these children were below the 3% percentile on the growth chart. This growth disturbance may be associated with a delay in bone age, delay in height age, and a marked delay in sexual maturation.

Two renal complications are worthy of mention. Obstructive hydronephrosis may occur in terminal ileum disease with inflammation involving the right ureter. Nephrolithiasis has been reported and this has an interesting etiology. Patients who have disease of the terminal ileum cannot absorb bile salts. Their circulating bile salt pool decreases and the liver compensates by increasing synthesis of glycine which is used to conjugate bile salts. Deamination of glycine and its breakdown results in urinary excretion of oxylate and stone formation.

The laboratory findings are rather nonspecific, but may include leukocytosis, elevated sedimentation rate, low serum proteins, and steatorrhea.

All patients with any form of inflammatory bowel disease should have a proctoscopic examination, for one may be able to make a diagnosis with a rectal biopsy. Rectal biopsies on 73 patients in a recent series with both small-intestine and rectal-colon disease, revealed 59 abnormal and 14 normal specimens. Not all of them, of course, were diagnostic for Crohn's disease; most were nonspecific. Eight out of 17 rectal biopsies in patients with small-intestine disease were abnormal. Six of these were rather nonspecific, but two of them had criteria diagnostic of Crohn's disease granulomas. So, this may afford a simple source of material for microscope diagnosis.

Radiological findings are easily correlated with clinical symptoms. The string sign is the most characteristic finding of Crohn's disease, and this comes about because of a thickened bowel wall with narrowing of the intestinal lumen. This is not necessarily an irreversible situation. Some of the narrowing is due to edema and inflammation, which is reversible. The radiological findings may not be apparent early in the disease; a normal x-ray does not always rule out Crohn's disease. The radiology department should be alterted that small-bowel disease is suspected so that personnel can assure proper examination on the terminal ileum.

The treatment of Crohn's disease is aimed at relieving symptoms and controlling, rather than curing, the disorder. Diet has always assumed importance in controlling symptoms, and specifically a low-residue diet is generally employed. There is little basis for the use of such a diet unless obstruction exists, and most patients do quite well with a normal diet that is appetizing and nutritious. Milk is frequently eliminated because it has been suspect in the etiology or aggravation of the disease, although this has never been proved. Milk allergy or lactose intolerance are specific indications for a milk-free diet. During acute disease, extremely hot and cold foods, which stimulate peristalsis, should be avoided. Finally, vigorous treatment of anemia, vitamin deficiencies, and malnutrition is important. Anticholinergics are basic in relieving diarrhea and cramps, and occasionally sedatives and tranquilizers are useful during periods of stress. Antibiotics are reserved for complications and specific signs of infection. Azulfadine in a dose of 4 to 8 gm per day is the initial drug of choice for control of symptoms and may be effective in prevention of future relapse. This drug is related to both aspirin and sulfa derivatives, and probably works as an anti-inflammatory agent. Its antibacterial activity is probably insignificant. Some patients may experience nausea with high doses, and allergic reactions may occur.

Although there is little proof of any long-term help from the addition of ster-

oids to the treatment program, there is no question that they are effective in controlling acute symptoms. Some studies have shown a higher incidence of surgery and an increased mortality with the use of steroids, but when used in moderate doses for a short time they can be extremely helpful. There are some patients who cannot be taken off steroids once they are started, but most can tolerate alternate-day steroids and withdrawal. Azathioprine (Imuran) is another drug that is being investigated. It avoids the growth problem that steroids induce in children, however the side effects are significant. Whether azathiaprine works as an immunosuppressive or anti-inflammatory agent is not known. Parenteral nutrition recently has been used in patients who have extensive disease and are malnourished, with the idea that resting the bowel will promote healing. Surgical removal of bowel for Crohn's disease may be followed by recurrence in other areas. Recurrence is especially frequent in the first four or five years after surgery. The young patient has more frequent recurrence after surgery. Surgery, therefore, is primarily reserved for complications of the disease, such as severe hemorrhage, obstruction, perforation, abscess, or fistulous tract formation. Despite a high recurrence rate, recurrent disease generally tends to be milder than the initial episode.

The overall prognosis with Crohn's disease of the small bowel is that it is a chronic disease with frequent flare-ups and remissions. The disease generally improves and eventually subsides in many patients. Those patients that have involvement of both ileum and colon have a poor prognosis and it has been stated that probably over 50% will have a surgical procedure at some time during their life. The overall mortality tends to be fairly low. Malignancy is a problem in patients with long-standing ulcerative colitis, but this has not been shown to be the case in Crohn's disease.

The participants, Department of Pediatrics, Russell J. Blattner, MD, Professor and Chairman, Baylor College of Medicine, Houston 77025.

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WARNINGS: Tetracycline usage during tooth development (last half of pregnancy to eight years) may cause permanent tooth discoloration (yellow-gray-brown), which is more common during long-term use but has occurred after repeated short-term courses. Enamel hypoplasia has also been reported. **Tetracyclines should not be used in this age group unless other drugs are not likely to be effective or are contraindicated.**

Usage in pregnancy. (See above **WARNINGS** about use during tooth development.)

Animal studies indicate that tetracyclines cross the placenta and can be toxic to the developing fetus (often related to retardation of skeletal development). Embryotoxicity has also been noted in animals treated early in pregnancy.

Usage in newborns, infants, and children. (See above **WARNINGS** about use during tooth development.)

All tetracyclines form a stable calcium complex in any bone-forming tissue. A decrease in fibula growth rate observed in prematures given oral tetracycline 25 mg/kg every 6 hours was reversible when drug was discontinued

Tetracyclines are present in milk of lactating women taking tetracyclines.

To avoid excess systemic accumulation and liver toxicity in patients with impaired renal function, reduce usual total dosage and, if therapy is prolonged, consider serum level determinations of drug.The antianabolic action of tetracyclines may increase BUN. While not a problem in normal renal function, in patients with significantly impaired function, higher tetracycline serum levels may lead to azotemia, hyperphosphatemia, and acidosis.

Photosensitivity manifested by exaggerated sunburn reaction has occurred with tetracyclines. Patients apt to be exposed to direct sunlight or ultraviolet light should be so advised, and treatment should be discontinued at first evidence of skin erythema.

PRECAUTIONS: If superinfection occurs due to overgrowth of nonsusceptible organisms, including fungi, discontinue antibiotic and start appropriate therapy

In venereal diseases, when coexistent syphilis is suspected, perform darkfield examination before therapy, and serologically test for syphilis monthly for at least four months.

Tetracyclines have been shown to depress plasma prothrombin activity; patients on anticoagulant therapy may require downward adjustment of their anticoagulant dosage.

In long-term therapy, perform periodic organ system evaluations (including blood, renal, hepatic)

Treat all Group A beta-hemolytic streptococcal infections for at least 10 days.

Since bacteriostatic drugs may interfere with the bactericidal action of penicillin, avoid giving tetracycline with penicillin

ADVERSE REACTIONS: Gastrointestinal (oral and parenteral forms): anorexia, nausea, vomiting, diarrhea, glossitis, dysphagia, enterocolitis inflammatory lesions (with monilial overgrowth) in the anogenital region

Skin: maculopapular and erythematous rashes; exfoliative dermatitis (uncommon). Photosensitivity is discussed above (See **WARNINGS**)

Renal toxicity: rise in BUN, apparently dose related (See **WARNINGS**)

Hypersensitivity: urticaria, angioneurotic edema, anaphylaxis, anaphylactoid purpura, pericarditis, exacerbation of systemic lupus erythematosus

Bulging fontanels, reported in young infants after full therapeutic dosage, have disappeared rapidly when drug was discontinued

Blood: hemolytic anemia, thrombocytopenia, neutropenia, eosinophilia

Over prolonged periods, tetracyclines have been reported to produce brown-black microscopic discoloration of thyroid glands, no abnormalities of thyroid function studies are known to occur

USUAL DOSAGE: Adults—600 mg daily, divided into two or four equally spaced doses. More severe infections: an initial dose of 300 mg followed by 150 mg every six hours or 300 mg every 12 hours. Gonorrhea: In uncomplicated gonorrhea, when penicillin is contraindicated, 'Rondomycin' (methacycline HCl) may be used for treating both males and females in the following clinical dosage schedule: 900 mg initially, followed by 300 mg q.i.d. for a total of 5.4 grams

For treatment of syphilis, when penicillin is contraindicated, a total of 18 to 24 grams of 'Rondomycin' (methacycline HCl) in equally divided doses over a period of 10-15 days should be given. Close follow-up, including laboratory tests, is recommended.

Eaton Agent pneumonia: 900 mg daily for six days.

Children—3 to 6 mg/lb/day divided into two to four equally spaced doses

Therapy should be continued for at least 24-48 hours after symptoms and fever have subsided.

Concomitant therapy: Antacids containing aluminum, calcium or magnesium impair absorption and are contraindicated. Food and some dairy products also interfere. Give drug one hour before or two hours after meals. Pediatric oral dosage forms should not be given with milk formulas and should be given at least one hour prior to feeding.

In patients with renal impairment (see **WARNINGS**), total dosage should be decreased by reducing recommended individual doses or by extending time intervals between doses

In streptococcal infections, a therapeutic dose should be given for at least 10 days.

SUPPLIED: 'Rondomycin' (methacycline HCl): 150 mg and 300 mg capsules; syrup containing 75 mg/5 cc methacycline HCl.

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Medicine in literature

Human Sexuality, AMA Committee on Human Sexuality, 246 pp, Chicago, American Medical Association, 1972, $6.

SEXUAL COUNSELING is an area in which many physicians apparently feel unprepared to practice, according to evidence offered by numerous surveys and publications. This volume, prepared by the AMA Committee on Human Sexuality, is, according to its authors, "intended to augment the efforts of the medical schools and to provide, in concise form, an overview of the subject" for students, interns and residents, and practicing physicians.

The book is organized into sections which trace sequentially normal sexual development, common problems of a sexual nature seen in medical practice, and societal aspects of human sexuality. The book is not intended as a comprehensive work, but as a guide; bibliographical lists at the end of each section offer suggestions for further reading.

Since this manual is also recommended for use by laymen, marriage counselors, clergy, and allied health personnel, some physicians may feel that the treatment is rather simplistic. There is no denying, however, that **Human Sexuality** is a useful reference book, if not a comprehensive one.

IN THE TMA LIBRARY

Appenzeller O: *The Autonomic Nervous System: An Introduction to Basic and Clinical Concept*. New York, American Elsevier, 1970.

Birch CA (ed): *Emergencies in Medical Practice*, ed 9. Baltimore, Williams & Wilkins, 1971.

Blake JB (ed): *Safeguarding the Public: Historical Aspects of Medicinal Drug Control*. Baltimore, Johns Hopkins Press, 1970.

Bloomquist H, et al (eds): *Library Practice in Hospitals*. Cleveland, Case Western Reserve Press, 1972.

Derbyshire RC: *Medical Licensure and Discipline in the United States*. Baltimore, Johns Hopkins Press, 1969.

Flint T Jr., Cain HD: *Emergency Treatment and Management*, ed 4. Philadelphia, W.B. Saunders, 1970.

Freese AS: *Headaches: The Kinds and the Cures*. Garden City, NY, Doubleday, 1973.

Grollman A, Grollman EF: *Pharmacology and Therapeutics*, ed 7. Philadelphia, Lea & Febiger, 1970.

Hoeprich PD (ed): *Infectious Diseases*. Hagerstown, Md, Harper and Row, 1972.

Johnson SL: *The History of Cardiac Surgery, 1896-1955*. Baltimore, Johns Hopkins Press, 1970.

Ludmerer KM: *Genetics and American Society*. Baltimore, Johns Hopkins Press, 1972.

Minetree H: *Cooley: The Career of a Great Heart Surgeon*. New York, Harper's Magazine Press, 1973.

Moore ME (ed): *Medical Emergency Manual: Differential Diagnosis and Treatment*. Baltimore, Williams & Wilkins, 1972.

Odell WD, Daughaday WH (eds): *Principles of Competitive Protein-Binding Assays*. Philadelphia, J. B. Lippincott, 1971.

Charles B. Dryden: a leader for Texas physicians

"I feel that the president should be a very vocal and active advocate of the Texas Medical Association and of each of its members," says Dr. Charles B. Dryden, Jr. "During my term of office I intend certainly to the best of my ability, to fulfill this, and each day that I am president, I will try to represent each of the members of the Texas Medical Association."

With the way medicine is changing, both scientifically and socially, it looks as if Dr. Dryden's role as advocate for Texas physicians will be an important one. Although he feels that no new major issues are likely to develop within the next year, he thinks the issues presently before the profession will give the association and its president more than enough to do. Some of the matters which Dr. Dryden feels will be important during the coming year include the implementation of the Texas Medical Foundation; Professional Standards Review Organizations; continuing education for members; the improvement of emergency medical services throughout the state; distribution of medical care; and relations with state and federal agencies.

Insurance questions also offer concern to the new president. "I feel that the problems we are having with third party carriers regarding insurance payments, such as the problem we had with Aetna during the past year, and other insurance companies which are doing the same thing, will be of concern. The improvement of all of our insurance programs for the membership in the state, an in-depth study of professional liability insurance in an attempt to either make this cheaper for the membership or possibly even carry our own, pushing involvement by all of the members of the Texas Medical Association in our own organization as well as in our parent organization, the American Medical Association, is also a possible goal." Another important area for action, declares Dr. Dryden, is gaining an increase in physicians' fees commensurate with sharply rising cost-of-living expenses.

The TMA president believes in the power of organized medicine. "I think that organized medicine needs to represent physicians," he says, "and I think that by physicians letting organized medicine know what they would like in the way of representation, the officers and staff of TMA gain insight into the manner in which these problems can be attacked and what actually can be done about them. I feel the professional association must become more and more important to the medical profession and the individual physician because of the demands of government. There has to be a concerted chorus of individual voices heard as an individual organization if we are ever going to be able to withstand governmental inroads into our practice of medicine and the freedom which we all desire."

Dr. Dryden's interest in the Texas Medical

Dr. Dryden greets Texas Attorney General John Hill at last January's TMA Legislative Seminar.

Association dates back to his friendship with the late Dr. Robert Daily, Wichita Falls family physician and long an active member of the association. "He personally asked me if I would undertake some of the initial work that I did with TMA and that increased involvement led to the Board of Councilors," remembers Dr. Dryden. "Although he died a few years ago, I still find myself wondering what Bob would suggest I do and have the feeling occasionally that I should pick up the phone and visit with him about some problem."

Dr. Daily's encouragement led Dr. Dryden to assume progressively more responsible positions within the association. He has served as president of the Wichita County Medical Society, councilor for the 13th District, chairman of the TMA Board of Councilors; and of course, as a TMA officer for the past year.

However, TMA isn't the only organization for which this active man finds time. Among other things, he has served as president of the Texas Urological Society; as a member of the Wichita County Board of Health; the Texas Regional Kidney Planning Committee; and the Governor's Council on Aging. In addition, he is a fellow of the American College of Surgeons; a member of the American Urological Association; and a diplomate of the American Board of Urology. He is a 32nd degree Scottish Rite Mason and a member of the Maskat Shrine Temple.

As with many people of Dr. Dryden's generation, all of this did not come easily. Born in 1920 in Blackwell, Okla, Dr. Dryden is the son of Mr. and Mrs. Charles B. Dryden, Sr., who now live in Levelland. His parents are native Oklahomans, but when Dr. Dryden was growing up, the family lived in Dalhart, where his father was manager of the first C. R. Anthony dry goods store to be located in Texas. But those were the dust bowl days, and due to the effect of the climate on his younger brother's health, Dr. Dryden's family moved back to Oklahoma and he was graduated in 1938 from Anadarko (Okla) High School.

After graduation, Dr. Dryden entered John Tarleton State College in Stephenville, Texas. While there, he lived with the Rev. Mr. Luther D. Mitchell, a Baptist minister, whom Dr. Dryden credits with having had a great influence on his early life. The Rev. Mr. Mitchell had been his first scout master and had guided him through the rank of Eagle Scout. His help during Dr. Dryden's college years has not been forgotten: "At that time," says the TMA president, "we were still in a depression and actually I feel this made the difference in my being able to go right on and get started. He was certainly a devoted friend and did everything in his power to help me along through many problems as a youngster."

In 1941, Dr. Dryden entered the University of Texas at Austin, and went on to Southwestern Medical College in Dallas (now The University of Texas Southwestern Medical School at Dallas) where he received his MD degree in 1945. Dr. Dryden is believed to be the first TMA president to have graduated from Southwestern.

An internship at Baylor University Hospital in Dallas was the next step up the ladder for the young physician, and that was followed by service with the US Army Medical Corps from 1946-1948, where he attained the rank of captain.

He entered the general practice of medicine in Memphis, Texas, after leaving the service, practicing there until 1954, when he began a residency in urology at Baylor University Affiliated Hospitals in Houston. Since 1956, when he completed his residency, Dr. Dryden has been a practicing

One of Dr. Dryden's hobbies is fishing for trophy game fish. Here, he shows off two of his better catches.

urologist in Wichita Falls.

He has not forgotten his years as a family physician, however. "My medical interests continue to be rather widespread," he says. "I feel that this (general practice) is a tremendous background for anyone who is going into a specialty and certainly makes a physician aware that the patient is a person and not just a certain organ system. As you undoubtedly realize, it is totally impossible to keep up with all of the various facets of medicine, but I do try to at least continue a slight working knowledge of the other aspects of medical practice."

Physician, activist, involved citizen—all of these are roles which Dr. Dryden plays each day. But in addition, there is something of the sportsman and adventurer in the man. His interests outside of medicine inculde golf, bird hunting, and winter skiing in the mountains. He maintains an apartment in Colorado where he and his family try to spend as much time as possible. Another hobby is fishing, and Dr. Dryden enjoys going into Canada, the Northwest Territories, and Alaska in search of trophy game fish. This summer, Dr. Dryden hopes to spend some time at a remote lake southwest of Anchorage fishing for trophy lake trout and rainbows.

And finally, perhaps above all, Dr. Dryden is a family man. He is married to Mary Ruth Cox of Stephenville and they have three children—Carol, a graduate student at The University of Texas at Austin; Julie Jane, also a student at The University of Texas; and John Stephen, a student at The University of Texas Medical School at San Antonio.

"My family and I are one," says the TMA president. "The joys and attainments of our three children are Mary Ruth's and my joys and attainments; their heartaches are our heartaches. The wishes and desires of my wife are mine and vice versa. We try to spend as much time together as possible and if it is necessary for me to go to a meeting or on a trip she always tries to be with me to aid in driving, to see that I stay awake, to see that I am properly clothed, fed, and well cared for."

Maybe because of his interest in his children and their futures, Dr. Dryden feels that young physicians should get involved in the work of the association. "I feel that any young physician who wants to become involved in association affairs has nothing more to do than make these wishes known to his county medical society officers. We are always looking for people who want to get involved in the Texas Medical Association—in working in its committees, councils, and boards. We welcome these young men. They certainly have a fresh approach to many of our problems and in the future will be the ones to determine the course of action which our Association will follow."

Dr. Dryden's career is an example of how a young man can rise through work and dedication to positions of responsibility. But that career is not over yet, and Dr. Dryden sees many areas yet to be dealt with. Personally, he hopes to see his son finish medical school, and to see his daughters attain their goals in life. He wants to continue to practice medicine (Dr. John C. Wurster will join him in practice this summer) and "to see the practice of medicine continue so that it will be an effective instrument in the American way of life."

As for his immediate task, he says, "I think the Texas Medical Association has in the past, and will continue in the future, to work in every way possible with our legislators, our Congressmen, and people in the state and all other interested parties in improving medical care in our state."

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J. Mackay, M.D.
P. K. Champion, M.D.

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Questions / Answers

Editor's note: This month's question and answer section deals with physicians' questions about Medicare and Medicaid. The answers were compiled by Dr. William Fred Lucas and the late Dr. Doyle W. Ferguson.

Q We practicing physicians are in the role of spectators and our senators and legislators don't seem to listen to us and our complaints about Medicare and Medicaid. In my opinion, you (Blue Cross-Blue Shield) in your role have more influence in making this system more workable than we do. What can you do to assure us that things will not get worse?
A Texas Blue Cross-Blue Shield, as the carrier for Medicare and Medicaid, cannot assure you that things may not get worse. However, the Blues' influence at the Bureau of Health Insurance level, the concentrated efforts of physicians with legislation, and efforts of the TMA are playing effective roles in the process of making the system more workable.

Q Please comment on the implications of the form (peer comparison, or whatever it is), and whether it relates to number of patients handled by the doctor who is said to be out of step with average utilization.
A The peer comparison form mailed to physicians indicates the number of services performed by the involved physician as they relate in volume to services performed by his peers. The basis of comparison is the peer norm which is developed by the given number of services per 100 patients. By developing the basis of the U/R form by this method, the norm can be translated into services per 50 patients, or 20 patients, or 200 patients.

Q The words "disallowed charges" sent to patients on Explanation of Benefits forms cast the physician in a bad light as being mercenary. Can you come up with some better term to explain to the patient that the doctor is not overcharging for his services?
A The term "more than allowable charges" is much more acceptable than the previous two terms. If there are any suggestions for better phrasing, forward them to Blue Cross-Blue Shield and the new terminology will be presented to the committee in Washington.

Q Will adequate descriptive terminology be sufficient in lieu of codes (which are too many times inadequate to describe an exact procedure or diagnosis)?
A Adequate descriptive terminology on a claim form should always take precedence over a procedure code. If a procedure is not in our coding manual, the type service rendered should be fully described on the claim form. The attachment of a short narrative regarding the unusual type service is quite helpful at times in determining the computed reasonable charge allowance.

Q What coding system is used by the Blues?
A Texas Blue Cross-Blue Shield is presently using the *International Classification of Diseases*, eighth revision, for coding diagnosis. Our procedure codes are based on the 1964 MSR with revisions and deletions made during the past seven or eight years.

Personals

Dr. Carmault B. Jackson, Jr., San Antonio, has been elected to the Board of Trustees of the American Society of Internal Medicine. Dr. Jackson currently serves as a member of TMA's Council on Tax-Financed Health Care Programs.

Fort Worth obstetrician-gynecologist **Dr. Ernest E. Anthony, Jr.** has been elected treasurer of the Association of American Physicians and Surgeons.

Dr. Thomas H. Guthrie, Houston urologist, has been elected vice president of the urology section of the American Academy of Pediatrics. Dr. Guthrie was 1970-1971 president of the Society for Pediatric Urology.

Dr. Ted H. Forsythe, Lubbock, has been honored by the Texas Nursing Association for "his dedication to the improvement of health care" and for his interest and encouragement to the nursing profession in Texas. Dr. Forsythe is chairman of TMA's Committee on Nursing.

Dr. John F. Thomas, Austin general surgeon, has been named to the board of trustees of the Texas Regional Medical Program, Inc. (TRMP). TRMP is a newly-created, non-profit corporation which will have the fiscal responsibility for the Regional Medical Program of Texas. The corporation was created expressly to serve as the grantee for RMPT.

Richardson general surgeon **Dr. William J. Powell** has been elected president of the Singleton Surgical Society, an organization composed of surgeons who have completed postgraduate training in general surgery, plastic surgery, orthopedics, neurosurgery, urology, or oral surgery. The membership of the society is international.

Dr. Howard L. Zauder, San Antonio, has been appointed to represent the American Society of Anesthesiologists on the Section Council of the American Medical Association and the AMA Section on Scientific Assembly.

Dr. Henry P. Hare, San Antonio, a member of the TMA Committee on Medicine and Religion, has been appointed to the San Antonio Area Foundation. Dr. Hare replaces **Dr. Al Hartman** whose term of office expired.

Dr. John P. McGovern, Houston, has assumed the presidency of the American Osler Society, a group of 60 physicians and health professionals with the common purpose of perpetuating the memory and teachings of William Osler, often called "the father of Americine medicine."
Dr. McGovern is director of the McGovern Allergy Clinic and chairman of the board of the Texas Allergy Research Foundation in Houston. In addition, he is a member of numerous national professional and honorary societies and holds faculty appointments at Baylor College of Medicine, the UT Graduate School of Biomedical Sciences at Houston and the UT Medical School at Houston.

Dr. James M. Brown, Marlin, has been elected alternate councilor of the American College of Radiology.

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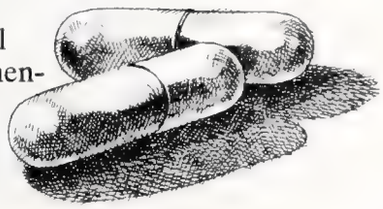

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Precautions: In elderly and debilitated, limit dosage to smallest effective amount to preclude development of ataxia, oversedation or confusion (not more than two capsules per day initially; increase gradually as needed and tolerated). Though generally not recommended, if combination therapy with other psychotropics seems indicated, carefully consider individual pharmacologic effects, particularly in use of potentiating drugs such as MAO inhibitors and phenothiazines. Observe usual precautions in presence of impaired renal or hepatic function. Paradoxical reactions (*e.g.*, excitement, stimulation and acute rage) have been reported in psychiatric patients. Employ usual precautions in treatment of anxiety states with evidence of impending depression; suicidal tendencies may be present and protective measures necessary. Variable effects on blood coagulation have been reported very rarely in patients receiving the drug and oral anticoagulants; causal relationship has not been established clinically.

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RECENTLY DECEASED MEMBERS OF THE TEXAS MEDICAL ASSOCIATION

LORENZO GALATAS
Kirbyville 1919-1973

A. L. LEWIS
San Angelo 1897-1973

R. L. LEWIS
Paris 1884-1973

JOHN D. McDANIEL
Robert Lee 1908-1972

M. J. McSWEEN
Slaton 1918-1973

C. A. MELLA
Corpus Christi 1914-1972

R. L. RHEA, JR.
San Antonio 1908-1973

O. W. ROBINSON
Paris 1890-1972

T. E. TABB
Waco 1883-1973

O. H. TIMMINS, SR.
San Antonio 1888-1973

IN MEMORIAM

The Memorial Library of the Texas Medical Association stands as a permanent memorial to physicians who have served their patients, their profession, and the people of Texas so faithfully over the years.

The Library ranks as one of the finest in the nation. It is providing more than 10,000 reference requests, 3,500 tapes and cassettes, and 2,500 films each year to physicians, students, and to those seeking information related to medicine and health care. The resources of the Library include 60,000 volumes, 400 tapes, and 300 scientific and lay films; more than 1,300 professional journals are received monthly. Services are provided without charge.

Contributions to the Texas Medical Memorial Library Fund are invested in a permanent fund and are managed by the Board of Trustees of the Texas Medical Association. Dividends are used to purchase new books and to operate the Library.

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Recent deaths

Dr. Lorenzo Galatas

An automobile accident claimed the life of Dr. Lorenzo Galatas, Kirbyville family physician, Jan. 22, 1973, in Kirbyville.

Born in Cuba in 1919, Dr. Galatas received his undergraduate degree from Havana and Artemisa Institute in Havana in 1938. He was graduated from Facultad de Medicina de la Universidad de la Habana, La Habana, with an MD degree in 1945. Dr. Galatas completed his internship and residency at Calixto Garcia Hospital, Havana, and practiced in Artemisa, Cuba, from 1945 to 1961, when he came to the United States because of political conditions in Cuba. He settled in Kirbyville where he continued his practice until his death.

Dr. Galatas was a member of Texas Medical Association, American Medical Association, American Academy of Family Practice, and American Geriatrics Society.

Surviving the physician are his wife, Caridad Carmona Galatas, Kirbyville; one son, Francisco, Zaragoza, Spain; and one daughter, Maria Laurencio, Salamanca, Spain.

Dr. R. L. Rhea, Jr.

Brig. Gen. Robert Lee Rhea, Jr., died Jan. 8, 1973, in San Antonio.

Gen. Rhea was born in McKinney, Texas, in 1908, the son of Mary M. Bucholz and Robert Lee Rhea, Sr., DVM. After completing his preliminary education in the San Antonio schools, Dr. Rhea went to The University of Texas at Austin, where he received a BA in 1929, and an MA in 1931.

In 1935, Dr. Rhea was graduated from Harvard Medical School in Boston, with an MD degree. Upon completion of an internship at Hartford Hospital in Hartford, Conn., he began a residency in general surgery at Union Memorial Hospital in Baltimore, Md. Dr. Rhea entered the US Army in 1941, and served with the medical corps in various Army hospitals in Australia, New Guinea, the Philippines, Germany and the continental United States.

In 1950, he completed a three-year general surgery residency at Oliver General Hospital in Augusta, Ga., and was certified by the American Board of Surgery in 1952.

Dr. Rhea came to El Paso in 1958 to serve as chief of the Department of Surgery and chief of professional services at William Beaumont General Hospital. In 1965, he transferred to Brooke General Hospital at Fort Sam Houston where he was deputy commander and director of medical education. In February, 1966, he became commanding general of Brooke. Dr. Rhea retired from active duty July 31, 1968.

Dr. Rhea was a member of American College of Surgeons, American Society of Abdominal Surgeons, Bexar County Medical Society, San Antonio Surgical Society, Texas Medical Association, and American Medical Association. He was also a former governor of the American College of Surgeons. He was awarded the "A" prefix to Military Occupational Specialty Number 3150 by the Surgeon General of the United States.

Dr. Rhea is survived by his wife Elizabeth Pool Rhea, San Antonio; three daughters, Mrs. Gwen Taylor, Dallas, Mrs. Margaret Solem, San Jose, Calif., and Lucy Lee Rhea, San Antonio; and one son, Robert L. Rhea, III, San Antonio; and four grandchildren.

Dr. Galatas

Dr. Rhea

Dr. McSween

Dr. Tabb

Dr. O. H. Timmins, Sr.

A member of the Texas Medical Association since 1915, Dr. Oliver Hazzard Timmins, Sr., San Antonio, died Jan. 17, 1973, in San Antonio. He was 85 years old.

Dr. Timmins was born in Elysian Fields, Tex. in 1888, and was the great grandson of early Texas colonists and patriots. He received his preliminary education in the Huntsville schools, and was graduated with an MD degree in 1911 from The University of Texas Medical Branch at Galveston. Dr. Timmins completed his internship at Santa Rosa Medical Center in San Antonio before serving as a captain in the Army Medical Corps during World War I.

A family physician who took special interest in industrial medicine, Dr. Timmins was elected an honorary member of the Texas Medical Association in 1951. He was also a member of American Medical Association, Southern Medical Association, and Bexar County Medical Society.

Dr. Timmins is survived by his wife, Mrs. Edith Hightower Timmins; one son, Dr. O. H. Timmins, Jr.; three grandchildren, all of San Antonio; and one brother, B. H. Timmins, Sr., Elysian Fields.

Dr. M. J. McSween

Dr. Magnus Jay McSween, Slaton family physician, died on Feb. 24, 1973, at his home. Acute myocardial infarction claimed the life of the 54-year-old physician.

A native of Austin, Dr. McSween received his BA degree from The University of Texas in 1939, and his MD degree from The University of Texas Medical Branch at Galveston in 1942. After an internship at Baltimore City Hospitals, Baltimore, Md., and a short practice in Seminole, Tex., Dr. McSween moved to Slaton where he practiced until the time of his death.

Dr. McSween was a member of the American Academy of Family Physicians, Texas Academy of Family Physicians, and Arthritis Foundation. He also served as city health officer in Slaton and was a trustee of Slaton Hospital Memorial Foundation.

Dr. McSween is survived by his wife, Louise Pieper McSween, Slayton; four daughters, Patricia McSween and Holly McSween, both of Dallas, Nancy McSween of Raton, N.M., and Mrs. Marilyn Orr, Austin; one son, M. J. McSween, Jr., Redondo Beach, Calif.; his step-mother, Mrs. M. J. McSween, Austin; and two grandchildren.

Dr. T. E. Tabb

Former director of the McLennan County Health Department, Dr. Thaddeus Edgar Tabb, died March 5, 1973, at Providence Hospital, Waco. Pneumonia and uremia claimed the life of the 89-year-old physician.

Born in Mt. Pleasant, Tex., the son of Mary Francis Campbell and James A. Tabb, Dr. Tabb received his preliminary education in Mt. Pleasant before going on to Vanderbilt University School of Medicine, Nashville, Tenn., where he received his MD degree in 1908. After practicing in Terrell, Tex. (1909-1911); Lorena, Tex. (1911-1919); and Rusk, Tex. (1919-1923), Dr. Tabb moved to Waco where he was in private practice until 1939, when he was appointed head of the McLennan County Health Department. He retired in 1959.

Dr. Tabb was a member of the McLennan County Medical Society and served as its president in 1933. He was elected to honorary membership in Texas Medical Association in 1964.

Survivors include two sons, Dr. K. S. Tabb, Waco, and Thad E. Tabb, Jr., Ozona; three grandchildren; a great-grandson; and several nieces and nephews.

Dr. R. L. Lewis

Retired Paris surgeon Dr. Robert Leslie Lewis, Sr., died Jan. 12, 1973, in L. P. McCuistion Community Hospital. The 88-year-old physician had been on the staff of that hospital since 1914 and had practiced in Paris since his graduation in 1909 from Tulane University School of Medicine in New Orleans.

Before beginning his medical studies, Dr. Lewis had studied for the ministry at Potter Bible College in Bowling Green, Ky. He had also attended Texas A & M University at College Station.

Listed in *Who's Who in Medicine,* Dr. Lewis was a member of Lamar-Delta County Medical Society, Texas Medical Association (he was elected to honorary membership in 1958), Texas Heart Association, American Medical Association, American College of Surgeons, Southern Medical Association, and Southwestern Surgical Congress.

Survivors include his wife, Frances Record Lewis; two sons, Dr. Robert Lewis, Jr., of Elizabeth, NJ, and Dr. Donald R. Lewis, of Paris; two sisters, Mrs. Mamie Troy of Dallas, and Mrs. Josie Milsap of Paris; and seven grandchildren.

Dr. John D. McDaniel

Dr. John Duncan McDaniel, 64, died of an apparent heart attack on Dec. 12, 1972, in his home. The only physician in the community of Robert Lee, Dr. McDaniel had practiced family medicine there since 1949, and had served as Coke County health officer for many years.

Dr. McDaniel was the son of missionary parents, and was born in Siam, where he lived until the age of 14. He attended schools in Missouri and Coe College in Cedar Rapids, Iowa, before entering the University of Iowa College of Medicine, Iowa City, in 1934.

Upon graduation from medical school in 1938 with an MD degree, Dr. McDaniel began serving an internship at St. Luke's Methodist Hospital in Cedar Rapids. In 1939, he began practicing in Marengo, Iowa, but left his practice there in 1942 to serve with the US Army in the Pacific during World War II. He completed his military obligations in 1946, and returned to Marengo. In 1947, Dr. McDaniel accepted an appointment to serve as a medical missionary; he returned to Siam and established an orphanage and hospital in Bangkok. He returned to the US in 1949, and established his practice in Robert Lee.

At the time of his death, Dr. McDaniel was a member of Tom Green Eight Counties Medical Society, Texas Medical Association, and American Medical Association.

He is survived by his wife, Lavina Jenner McDaniel; three sons, Charles E. of Los Angeles, John A. of Cisco, Tex., and Fredrick J. of San Angelo; two daughters, Mrs. Carolyn Simpson of Robert Lee, and Mrs. Lavina Walker of San Angelo; one brother, Dr. Edwin McDaniel, of Thailand; two sisters, Mrs. Helen Clark of Antrim, New Hampshire, and Mrs. Alice Trumbell of Bethesda, Md.; and 12 grandchildren.

Dr. C. A. Mella

Obstetrician-gynecologist Dr. Charles A. Mella of Corpus Christi died Dec. 25, 1972. Dr. Mella had practiced in Corpus Christi since his discharge from the US Army in 1946.

A native of Virginia, Dr. Mella graduated in 1938 from the University of Virginia Medical School at Charlottesville. He then served as an intern at the University of Iowa Hospitals in Iowa City from 1938 to 1939; as assistant resident in obstetrics and gynecology at Vanderbilt University Hospitals in Nashville from 1939 to

DR. LEWIS

DR. MELLA

DR. ROBINSON

1942; and as a resident in obstetrics and gynecology at Vanderbilt from 1942 to 1943. In 1943, Dr. Mella began three years of service as a medical officer with the US Army.

Medical organizations to which Dr. Mella belonged include Nueces County Medical Society, Texas Medical Association, American Medical Association, Southern Medical Association, American College of Obstetricians and Gynecologists, Aerospace Medical Association, and American College of Surgeons.

He is survived by his wife, Katherine Mitchell Mella; a son, Charles A. Mella, III, of Corpus Christi; and a daughter, Melinda Kate Mella, of Dallas.

Dr. O. W. Robinson

Paris general practitioner and surgeon Dr. Oscar W. Robinson died Dec. 25, 1972, in Cooper, Tex. Dr. Robinson, 82, had been on the staff of St. Joseph's Hospital in Paris before his retirement from medical practice in 1970.

The long-time Paris physician had first practiced in his hometown of Biardstown, Tex. He began practicing there immediately upon graduating from Tulane University School of Medicine at New Orleans in 1915. In 1928, he moved his practice to Paris.

During World War I, Dr. Robinson served as a first lieutenant in the US Army Medical Corps. He was a member and former president of Lamar-Delta County Medical Society, a member of Texas Medical Association, Southern Medical Association, American Medical Association, American Academy of Family Physicians, and American Society of Abdominal Surgeons.

His wife, the former Marguerite Butler Robinson, died in 1971. Dr. Robinson is survived by two sisters, Mrs. Mysie Jackie Martin of Dallas, and Mrs. Willie Mae McLemore of Houston.

Dr. A. L. Lewis

Dr. Aubrey Leon Lewis, 75, San Angelo surgeon, died Jan. 5, 1973. Dr. Lewis was the victim of a gunshot wound to the head, received in an apparent robbery attempt as the physician was leaving Lewis Emergency Hospital in San Angelo.

A resident of San Angelo for 40 years, Dr. Lewis was born in Daingerfield, Tex. He attended Baylor University at Waco, and received his MD degree in 1921 from the University of Tennessee College of Medicine at Memphis. He interned at St. Joseph Hospital in Memphis, and served a residency in surgery at Security Benefit Home and Hospital in Topeka, Kans. In 1932, Dr. Lewis began practicing medicine in San Angelo.

Dr. Lewis did postgraduate work at the University of Pennsylvania School of Medicine in Philadelphia and Harvard University Medical School, Boston. He was a member of Tom Green Eight Counties Medical Society, Texas Medical Association, American Medical Association, and American Society of Abdominal Surgeons.

Surviving Dr. Lewis are his wife, Gladys Jones Lewis; two daughters, Mrs. Virginia Campbell of St. Louis, and Debra Ann Lewis of San Angelo; a son, Dudley G. Lewis of San Angelo; a brother, J. D. Lewis of Cumby, Tex.; a sister, Mrs. Irma Gaugh of Dallas; and two grandchildren.

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Before treatment, necrotic matter coated the inner surfaces of this decubitus ulcer.

After six days of TRAVASE therapy, debridement is nearly complete and granulation evident.

Adjunctive Therapy—Observe Its Effects in 48 hours
When the recommended nursing technique is followed without deviation, this procedure can generate visible improvement within 48 hours of treatment. If no dissolution of slough occurs by then, further application is unlikely to be rewarding (recheck for break in procedure, usually due to use of cleansing or antiseptic agents which impair the effectiveness of the enzyme in TRAVASE).

Clinical observation and photos by Kathleen Brough Oldham, M.D., Marion County Home, Indianapolis, Ind.

Please see next page for prescribing information

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Travase® Ointment brand of Sutilains

APPLICATION TECHNIQUE: TRAVASE Ointment is indicated as an adjunct to established methods of wound care for biochemical debridement. It dissolves and facilitates the removal of necrotic tissues and purulent exudates.

TRAVASE enzymes are selective. Virtually inactive on viable tissue.

When this recommended nursing technique is followed without deviation, this procedure can generate visible improvement within 48 hours . . .

(Ulcer being irrigated) Thoroughly cleanse and irrigate the wound area using **only** sterile water or sodium chloride solution. Be sure to cleanse the wound of any antiseptics or heavy-metal antibacterial agents which may interfere with the enzyme activity.

Thoroughly soak the wound area. Where practical, tubbing or showering is suitable. Or wet soaks with gauze pads may be used. Remember to avoid chemical cleansing agents which may interfere with the therapy.

With a sterile cotton swab or finger cot, apply a very **thin** layer of TRAVASE Ointment. The ointment spreads easily and only a small amount is needed (a small dab of ointment will cover an area as big as the back of a hand).

Be sure, though, to rub the ointment well into every crack or crevice of the wound and overlap the surrounding skin one-fourth to one-half inch beyond the area to be debrided—to be sure of complete coverage.

Apply loose, wet dressings, thoroughly soaked in sodium chloride solution or sterile water to the area to be debrided only.

Cover the moist dressings with an occlusive wrap (Saran wrap, Telfa Pads, or other plastic wrappings) to keep wound site moist. Do not extend occlusive wrap over ½ inch beyond area to be debrided.

When changing dressing, gently wipe away the dissolved material. Repeat the complete dressing procedure, including application of TRAVASE Ointment, four times daily.

The ulcer shown in these photos is simulated on a model in order to demonstrate the correct TRAVASE application technique.

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_____ Additional Information on TRAVASE® Ointment (brand of Sutilains)

_____ In-service training program

_____ Comment _____

DESCRIPTION: TRAVASE® (brand of sutilains) Ointment is a sterile preparation of proteolytic enzymes, elaborated by **Bacillus subtilis**, in a hydrophobic ointment base consisting of 95% white petrolatum and 5% polyethylene. One gram of ointment contains approximately 82,000 casein units* of proteolytic activity.

ACTION: TRAVASE Ointment selectively digests necrotic soft tissues by proteolytic action. It dissolves and facilitates the removal of necrotic tissues and purulent exudates that otherwise impair formation of granulation tissue and delay wound healing (4).

At body temperatures these proteolytic enzymes have optimal activity in the pH range from 6.0 to 6.8.

INDICATIONS: For wound debridement (1,2)—TRAVASE Ointment is indicated as an adjunct to established methods of wound care for biochemical debridement of the following lesions:

Second and third degree burns,
Decubitus ulcers,
Incisional, traumatic, and pyogenic wounds,
Ulcers secondary to peripheral vascular disease.

CONTRAINDICATIONS: Application of TRAVASE (brand of sutilains) Ointment is contraindicated in the following conditions:

Wounds communicating with major body cavities,

Wounds containing exposed major nerves or nervous tissue,

Fungating neoplastic ulcers,

Wounds in women of child-bearing potential—because of lack of laboratory evidence of effects of TRAVASE upon the developing fetus.

WARNING: Do not permit TRAVASE Ointment to come into contact with the eyes. In treatment of burns or lesions about the head or neck, should the ointment inadvertently come into contact with the eyes, the eyes should be immediately rinsed with copious amounts of water, preferably sterile.

PRECAUTIONS: A moist environment is essential to optimal activity of the enzyme. Enzyme activity may also be impaired by certain agents. **In vitro,** several detergents and antiseptics (benzalkonium chloride, hexachlorophene, iodine, and nitrofurazone) may render the substrate indifferent to the action of the enzyme (3). Compounds such as thimerosal, containing metallic ions interfere directly with enzyme activity to a slight degree, whereas neomycin, sulfamylon-streptomycin, and penicillin do not affect enzyme activity. In cases where adjunctive topical therapy has been used and no dissolution of slough occurs after treatment with TRAVASE Ointment for 24 to 48 hours, further application, because of interference by the adjunctive agents, is unlikely to be rewarding.

In cases where there is existent or threatening invasive infection, appropriate systemic antibiotic therapy should be instituted concurrently.

Although there have been no reports of systemic allergic reaction in humans, studies have shown that there may be an antibody response in humans to absorbed enzyme material.

ADVERSE REACTIONS: Adverse reactions consist of mild, transient pain, paresthesias, bleeding and transient dermatitis. Pain usually can be controlled by administration of mild analgesics. Side effects severe enough to warrant discontinuation of therapy occasionally have occurred.

If bleeding or dermatitis occurs as a result of the application of TRAVASE (brand of sutilains) Ointment, therapy should be discontinued. No systemic toxicity has been observed as a result of the topical application of TRAVASE Ointment.

Dosage and Administration

STRICT ADHERENCE TO THE FOLLOWING IS REQUIRED FOR EFFECTIVE RESULTS OF TREATMENT

1. Thoroughly Cleanse and Irrigate Wound Area with sodium chloride or water solutions. Wound **MUST** be cleansed of antiseptics or heavy-metal antibacterials which may denature enzyme or alter substrate characteristics (e.g., Hexachlorophene, Silver Nitrate, Benzalkonium Chloride, Nitrofurazone, etc.).
2. Thoroughly moisten wound area either through tubbing, showering or wet soaks (e.g., sodium chloride or water solutions).
3. Apply TRAVASE Ointment in a thin layer assuring intimate contact with necrotic tissue and complete wound coverage extending to ¼ to ½ inch beyond the area to be debrided.
4. Apply loose wet dressings.
5. Repeat entire procedure 3 to 4 times per day for best results.

How Supplied

3P3002 TRAVASE Ointment is supplied sterile in one-half ounce tubes (14.2 g.) containing 82,000 casein units of sutilains per gram of hydrophobic ointment base.

The ointment must be stored under refrigeration at 2° to 10° C (35° to 50° F).

References

1. Garrett, T. A. **Bacillus subtilis** protease, a new agent for debridement. Clin. Med. **76:** 11-15, 1969.

2. Hesterberg, R. (Necrosis treatment on fermentative basis). Doctoral dissertation from the Chirurgical Clinic of the University of Munich. Dissertation Printing: Charlotte Schoen, Munich, 1964. (Ger.)

3. Howes, E. L. The healing of the burn may be hindered by its first aid therapy. 20th Cong. Soc. Inter. Chir., Rome, Italy, September 14-23, 1963.

4. Prytz, B., Connell, J. F., Jr., and Rousselot, L. M. **Bacillus subtilis** protease in the digestion of burn eschar. Clin. Pharmacol. Therap. **7:** 347-51, 1966.

*A casein unit is the amount of enzyme required to produce the same optical density at 275 mμ as that of a solution of 1.5 mcg. tyrosine/ml. after the enzyme has been incubated with 35 mg. of casein at 37° C. for one minute.

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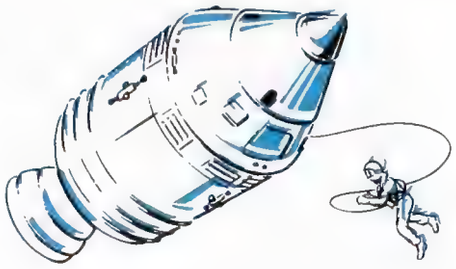

Man in space, now fait accompli, re-emphasizes the importance of Uro-Phosphate therapy. Research into the effect of space travel on the astronaut reveals that weightlessness causes loss of bone calcium. As the bones are required to bear less and less of the weight of the body they lose calcium, increasing the calcium content of the urine. When physical activity is reduced, the acidity of the urine should be adjusted to keep increased calcium in solution . . . . a prophylaxis to prevent kidney or bladder calculi.

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Each tablet contains: METHENAMINE, 300 mg.; SODIUM ACID PHOSPHATE, 500 mg.

Uro-Phosphate gives comfort and protection when inactivity causes discomfort in the urinary function. It keeps calcium in solution, preventing calculi; it maintains clear, acid, sterile urine; it encourages complete voiding and lessens frequency when residual urine is present.

Uro-Phosphate contains sodium acid phosphate, a natural urinary acidifier. This component is fortified with methenamine which is inert until it reaches the acid urinary bladder. In this environment it releases a mild antiseptic keeping the urine sterile.

Uro-Phosphate is safe for continuous use. There are no contra-indications other than acidosis. It can be given in sufficient amount to keep the urine clear, acid and sterile. A heavy sugar coating protects its potency.

Dosage:

For protection of the inactive patient 1 or 2 tablets every 4 to 6 hours is usually sufficient to keep the urine clear, acid and sterile.

2 tablets on retiring will keep residual urine acid and sterile, contributing to comfort and rest.

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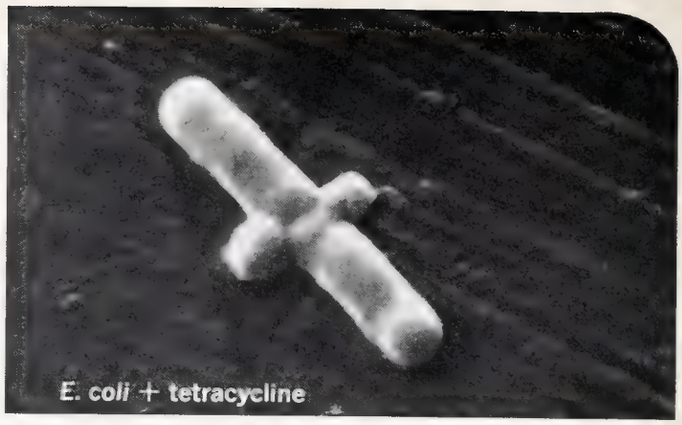
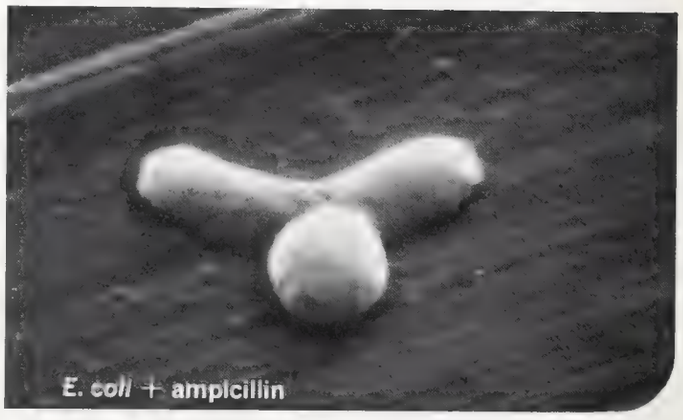
Encounter under the Scanning Electron Microscope

SEM reveals changes in *E. coli* exposed to antibacterial agents

The Scanning Electron Microscope (SEM) is the only instrument which gives 3-dimensional views on a microscopic level. This permits the surface morphology of microorganisms to be observed in detailed perspective. Changes in surface morphology of *E. coli* exposed to various antimicrobial agents are seen on the following page. An SEM photomicrograph of normal control *E. coli* appears above.





Different modes of antibacterial action — Similar changes in morphology

As part of a series of experiments,[1-3] strains of *E. coli* proven susceptible to each antibacterial agent were exposed to 1 MIC of the respective antibacterials for a three-hour period. Included were cell-wall-active drugs, ampicillin and cephalothin; a drug interfering with intracellular protein synthesis, tetracycline; and a chemical agent which acts by interference with para-aminobenzoic acid, sulfamethoxazole.

As seen above, elongation of the bacilli, mid-cell defects and spheroplast-like forms may be appreciated with the SEM technique. These changes in bacterial morphology were similar... regardless of the antibacterial agent used and irrespective of its mechanism of action.

"At present, the significance of these observations in clinical infection must be considered with caution, but it is hoped that these data will stimulate a reevaluation of present concepts of the nature and role of morphological variants of bacteria exposed to a variety of antibacterial factors."[2]

It should be noted that no clinical conclusions can be drawn from this study, as it is not always possible to extrapolate *in vitro* data to humans.

References: 1. Klainer, A. S.; Fass, R. J., and Perkins, R. L.: Scientific Exhibit presented at the 25th American Medical Association Clinical Convention, New Orleans, La., Nov. 28-Dec. 1, 1971. **2.** Klainer, A. S., and Perkins, R. L.: *Antimicrob. Agents Chemother., 1*:164, 1972. **3.** Klainer, A. S.: Data on file, Hoffmann-La Roche Inc., Nutley, N.J.

Before prescribing, please consult complete product information, a summary of which follows:

Indications: Acute, recurrent or chronic nonobstructed urinary tract infections (primarily pyelonephritis, pyelitis and cystitis) due to susceptible organisms. **Note: Carefully coordinate *in vitro* sulfonamide sensitivity tests with bacteriologic and clinical response; add aminobenzoic acid to follow-up culture media. The increasing frequency of resistant organisms limits the usefulness of antibacterials including sulfonamides, especially in chronic or recurrent urinary tract infections.** Measure sulfonamide blood levels as variations may occur; 20 mg/ 100 ml should be maximum total level.

Contraindications: Sulfonamide hypersensitivity; pregnancy at term and during nursing period; infants less than two months of age.

Warnings: Safety during pregnancy has not been established. Sulfonamides should not be used for group A beta-hemolytic streptococcal infections and will not eradicate or prevent sequelae (rheumatic fever, glomerulonephritis) of such infections. Deaths from hypersensitivity reactions, agranulocytosis, aplastic anemia and other blood dyscrasias have been reported and early clinical signs (sore throat, fever, pallor, purpura or jaundice) may indicate serious blood disorders. Frequent CBC and urinalysis with microscopic examination are recommended during sulfonamide therapy. Insufficient data on children under six with chronic renal disease.

Precautions: Use cautiously in patients with impaired renal or hepatic function, severe allergy, bronchial asthma; in glucose-6-phosphate dehydrogenase-deficient individuals in whom dose-related hemolysis may occur. Maintain adequate fluid intake to prevent crystalluria and stone formation.

Adverse Reactions: *Blood dyscrasias* (agranulocytosis,

Encounter in Clinical Practice

Control of primary bacterial offenders

Antibacterial Gantanol® (sulfamethoxazole) controls susceptible strains of *E. coli* and other gram-negative and gram-positive organisms often implicated in acute nonobstructed pyelonephritis and cystitis.

Prompt antibacterial blood and urine levels

In from 2 to 3 hours after the initial 2-Gm adult dose, antibacterial levels are present in both the blood and urine.

B.I.D./T.I.D. dosage for around-the-clock coverage

Subsequent 1-Gm doses provide up to 12 hours of antibacterial coverage. More severe u.t.i. may require a q. 8 h. dosage regimen. Either schedule provides coverage during the waking and sleeping hours—especially important during hours of sleep when normal urinary retention tends to favor bacterial proliferation.

Also effective in nonobstructed chronic and recurrent u.t.i.

It is not uncommon for the elderly and the debilitated to develop chronic and/or recurrent nonobstructed urinary tract infections such as pyelonephritis and cystitis. Such cases often respond satisfactorily to Gantanol. The increasing frequency of resistant organisms is a limitation of usefulness of antibacterial agents including sulfonamides, especially in chronic or recurrent u.t.i.

Your Option: Tablets or Suspension

Either dosage form—the Tablets or the pleasant-tasting, cherry-flavored Suspension—can provide the dependable antibacterial activity necessary to control susceptible nonobstructed cystitis and pyelonephritis. Symptomatic improvement may usually be expected in 24 to 48 hours. The usual precautions with sulfonamide therapy should be observed, including adequate fluid intake. Gantanol (sulfamethoxazole) is generally well tolerated with relative freedom from complications; the most common side effects are nausea, vomiting and diarrhea. Frequent c.b.c.'s and urinalyses with microscopic examination are recommended.

In nonobstructed cystitis and pyelonephritis due to susceptible organisms

Gantanol® (sulfamethoxazole) Basic Therapy

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aplastic anemia, thrombocytopenia, leukopenia, hemolytic anemia, purpura, hypoprothrombinemia and methemoglobinemia); *allergic reactions* (erythema multiforme, skin eruptions, epidermal necrolysis, urticaria, serum sickness, pruritus, exfoliative dermatitis, anaphylactoid reactions, periorbital edema, conjunctival and scleral injection, photosensitization, arthralgia and allergic myocarditis); *gastrointestinal reactions* (nausea, emesis, abdominal pains, hepatitis, diarrhea, anorexia, pancreatitis and stomatitis); *CNS reactions* (headache, peripheral neuritis, mental depression, convulsions, ataxia, hallucinations, tinnitus, vertigo and insomnia); *miscellaneous reactions* (drug fever, chills, toxic nephrosis with oliguria and anuria, periarteritis nodosa and L.E. phenomenon). Due to certain chemical similarities with some goitrogens, diuretics (acetazolamide, thiazides) and oral hypoglycemic agents, sulfonamides have caused rare instances of goiter production, diuresis and hypoglycemia as well as thyroid malignancies in rats following long-term administration. Cross-sensitivity with these agents may exist.

Dosage: Systemic sulfonamides are contraindicated in infants under 2 months of age (except adjunctively with pyrimethamine in congenital toxoplasmosis).

Usual adult dosage: 2 Gm (4 tabs or teasp.) initially, then 1 Gm *b.i.d.* or *t.i.d.* depending on severity of infection.

Usual child's dosage: 0.5 Gm (1 tab or teasp.)/20 lbs of body weight initially, then 0.25 Gm/20 lbs *b.i.d.* Maximum dose should not exceed 75 mg/kg/24 hrs.

Supplied: Tablets, 0.5 Gm sulfamethoxazole; Suspension, 0.5 Gm sulfamethoxazole/teaspoonful.

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In simple (nontoxic) goiter, Proloid (thyroglobulin) may be tried therapeutically, in nonemergency situations, in an attempt to reduce the size of such goiters.

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Warnings. Thyroglobulin should not be used in the presence of cardiovascular disease unless thyroid-replacement therapy is clearly indicated. If the latter exists, low doses should be instituted beginning at 0.5 to 1.0 grain (32 to 64 mg) and increased by the same amount in increments at two-week intervals. This demands careful clinical judgment.

Morphologic hypogonadism and nephroses should be ruled out before the drug is administered. If hypopituitarism is present, the adrenal deficiency must be corrected prior to starting the drug.

Myxedematous patients are very sensitive to thyroid and dosage should be started at a very low level and increased gradually.

Precaution. As with all thyroid preparations this drug will alter results of thyroid function tests.

Adverse Reactions. Overdosage or too rapid increase in dosage may result in signs and symptoms of hyperthyroidism, such as menstrual irregularities, nervousness, cardiac arrhythmias, and angina pectoris.

Dosage and Administration. Optimal dosage is usually determined by the patient's clinical response. Confirmatory tests include BMR, T_3 ^{131}I resin sponge uptake, T_3 ^{131}I red cell uptake, Thyro Binding Index (TBI), and Achilles Tendon Reflex Test. Clinical experience has shown that a normal PBI (3.5-8 mcg/100 ml) will be obtained in patients made clinically euthyroid when the content of T_4 and T_3 is adequate. Dosage should be started in small amounts and increased gradually with increments at intervals of one to two weeks. Usual maintenance dose is 0.5 to 3.0 grains (32 to 190 mg) daily.

Overdosage Symptoms. Headache, instability, nervousness, sweating, tachycardia, with unusual bowel motility. Angina pectoris or congestive heart failure may be induced or aggravated. Shock may develop. Massive overdosage may result in symptoms resembling thyroid storm. Chronic excessive dosage will produce the signs and symptoms of hyperthyroidism.

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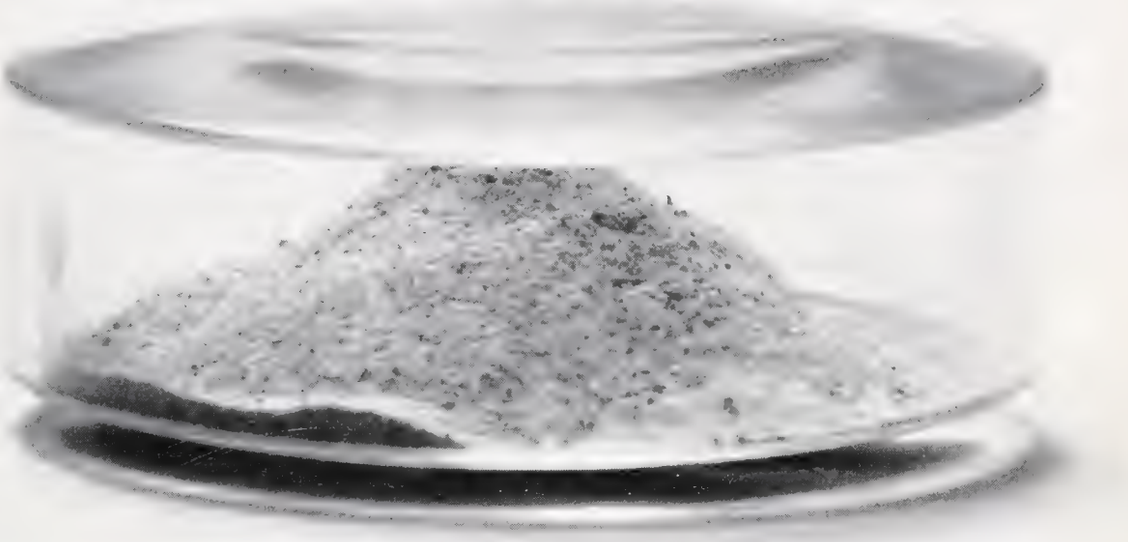

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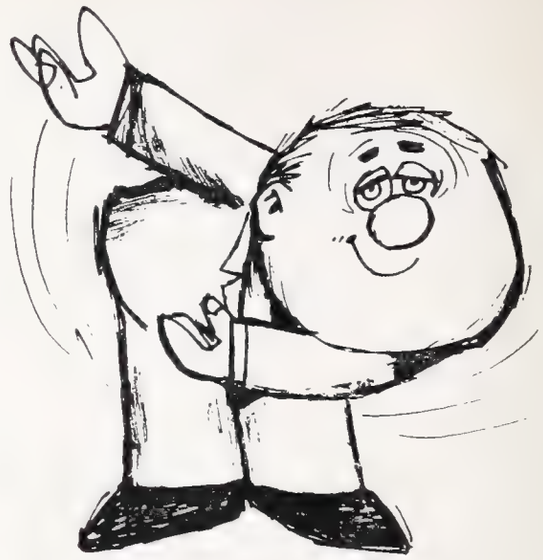

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Guests	709
Exhibitors	606
TOTAL REGISTRATION	4,794

We're proud to announce a new record in our physician attendance surpassing the 2,532 physicians who registered in 1971 in Houston.

The 107th Annual Session will be held in Houston, May 9-12, 1974.

RESERVE THESE DATES NOW AND PLAN TO BE WITH US. YOUR INTEREST AND PARTICIPATION IS CERTAINLY APPRECIATED.

Classified Advertising

Physicians Wanted

ORTHOPEDIC SURGEON AND TWO GP's needed by 19 doctor group, 100-bed fully accredited hospital. Salary open. Full partnership in one year. For additional details, write John B. Chester, M.D., 3330 South Lancaster Road, Dallas, Texas 75216.

UROLOGIST, board certified or eligible, to associate with a progressive and expanding multispecialty group in West Texas. Many fringe benefits including retirement program. No investment required. Adjoining accredited hospital. City population 35,000. Contact Ad-236, *Texas Medicine*, 1801 North Lamar Blvd., Austin, Texas 78701.

INTERNIST AND GENERAL PRACTITIONER WANTED by a five man group in a 10,000 population county seat town in Central Texas. The location is one hour from Dallas and Fort Worth, 30 minutes from Waco, and 20 minutes from Lake Whitney Dam. The clinic is located in the same building with a 50-bed, fully accredited hospital. The doctors have no hospital financial responsibility. Will start the right man at $30,000 salary for first year and full partnership after one or two years. It will be necessary to do some obstetrics. Please reply to Ad-301, *Texas Medicine*, 1801 North Lamar Blvd., Austin, Texas 78701.

WELL ESTABLISHED 32-man multispecialty group in Dallas, Texas, needs an ob/gyn, internal medicine, general surgeon, orthopedist, and otolaryngologist. Early partnership, liberal vacation and meeting time, life insurance, group hospitalization, retirement benefits, teaching opportunities, new facilities, interview expenses paid. Please contact Cecil Rosamond, Administrator, P. O. Box 28, Dallas, Texas.

DESIRE GP, SURGEON OR EENT. 16,000 population, rural area. Industry and ranching. Near metropolitan area. Good school system. Need association. Cleburne, Texas. For additional information contact Ad-363, *Texas Medicine*, 1801 North Lamar Blvd., Austin, Texas 78701.

ATTENTION PILOT PHYSICIANS: Combine emergency room work with flying. Group maintains Bonanza for business and pleasure. Please reply to Ad-365, *Texas Medicine*, 1801 North Lamar Blvd., Austin, Texas 78701.

GENERAL PRACTICE, FAMILY PRACTICE with three other family practitioners. Clinic, 40-bed hospital, 44-bed extended care, pharmacy. No capital outlay, no buy-in, equal privileges, guaranteed income until established. Top opportunity in Southwest. Contact Gordon Russell, Administrator, Hi-Plains Hospital-Clinic, 203 West 4th, Hale Center, Texas 79041.

FAMILY PRACTICE PHYSICIAN AND INTERNIST needed to join a full time five man clinic association with part time radiologist and clinical pathologist in Clifton, Texas. Located 35 miles NW of Waco, 15 miles from Lake Whitney; good fishing, excellent hunting, new, recently completed, modern golf course. Excellent schools, churches and growing progressive small town. Closely associated with new 65-bed hospital facility, which is fully accredited by the Joint Commission. Suggest salary at first with partnership in future. Financial terms open. Please contact V. D. Goodall, M.D., Clifton Medical and Surgical Clinic Association, Clifton, Texas 76634. Telephone 675-8621 or 675-3113.

GENERAL PRACTITIONER: Excellent location in the Lost Pines of Texas area. Growing community of 3,500 along the beautiful Colorado river has an excellent opportunity for a good family general practitioner. Excellent small hospital (25 beds) and nursing home (62 beds) complex. Guaranteed salary, clinic environment and other fringe benefits will make this difficult to turn down if interested in working in a progressive rural community. Write Ad-386, *Texas Medicine*, 1801 North Lamar Boulevard, Austin, Texas 78701.

PSYCHIATRIC RESIDENCY in approved 3-year program. Effective connections with universities, medical schools, private clinics, and community centers. Outstanding faculty and programs. Stipends with Texas license are $13,000, $14,000, and $15,000 per year. In addition, now offering residency in child psychiatry. For full information write to Anthony P. Rousos, M.D., Director of Training and Research, Austin State Hospital, 4110 Guadalupe Street, Austin, Texas 78751.

GP WANTED TO ASSOCIATE with well established GP in town of 25,000, 75 miles north of Dallas. Good schools and churches, close to Lake Texoma. Privileges in all three hospitals according to qualifications. Salary open. Write or call W. S. Fry, M.D., 2301 South Austin Avenue, Denison, Texas 75020.

FP OR IM TO JOIN THREE MAN GROUP (all ABFP). Investigate facilities, compatability, economics and environment personally with wife and family. Community Health Center, P.O. Box 672, Trinity, Texas. 713-594-3595 for Barnes, Colwell or Jones.

EMERGENCY DEPARTMENT PHYSICIAN IN TEXAS: Average earnings $45,000 with guarantee. Full department status. Maintain free practice of medicine. Work for patient on fee-for-service basis. Call 1-512-653-8221. Apply to Ad-417, *Texas Medicine*, 1801 North Lamar Blvd., Austin, 78701.

$30,000-$48,000 minimum collections guaranteed first year, payable monthly. Not an employment agency. General family practices in Hillsboro and in Houston and Dallas suburbs. Good schools and professionally satisfying private practices, both solo and group. Minimum or no practice expense first year. Write with C.V. to Nat T. Winston, Jr., M.D., Vice President of Professional Relations, Hospital Affiliates, Inc., P.O. Box 9836, Houston, Texas 77015. 713/453-6324.

INTERNISTS—Professionally satisfying private practices, both associate and group in suburbs of Dallas and Houston. $3,000-$4,000 minimum monthly collections guaranteed with little or no practice expense first year. Not an employment agency. Write with C.V. to Nat T. Winston, Jr., M.D., Vice President of Professional Relations, Hospital Affiliates, Inc., P.O. Box 9836, Houston, Texas 77015. 713/453-6324.

OB/GYN PRIVATE PRACTICES, both solo and group, available in Hillsboro and in suburbs of Houston. $30,000 minimum collections guaranteed the first year, payable monthly. Not an employment agency. Professionally satisfying practices in warm climates with good schools for your children. Write with C.V. to Nat T. Winston, Jr., M.D., Vice President of Professional Relations, Hospital Affiliates, Inc., P.O. Box 9836, Houston, Texas 77015. 713/453-6324.

SMALL EAST TEXAS TOWN DESIRES GENERAL PRACTITIONER willing to work. We have the following to offer: large industrial payroll with new expansion program to increase plant 25%; can be in Toledo or Rayburn Lake in 15 minutes; new hospital district proposed; 60-bed nursing home to be built. Office space available. Support of community assured. Please reply to Ad-435, *Texas Medicine*, 1801 North Lamar Blvd., Austin, Texas 78701.

WHAT WE NEED, MONEY CAN'T BUY—we need you. GP/S/OB with anesthesiologist thrown in for smalltown practice, solo or duet. Two GPs in town ready to welcome you. Hospital in town, two nursing homes. Friendly life-style, career opportunity galore, work to suit your taste. No moon and stars, but you'll like what we have. Llano, Texas. Contact H. A. Raesener, Jr., AC915/247-5040 for particulars.

GENERAL PRACTITIONER AND INTERNIST. Newly constructed, multi-specialty, 6 man clinic in West Texas city of 180,000. New 120 bed hospital adjacent to clinic. Top salary with partnership opportunity in two years. Interested applicants send curriculum vitae to Ad-438, *Texas Medicine*, 1801 North Lamar Blvd., Austin, Texas 78701.

FAMILY PRACTICE PHYSICIAN NEEDED to join a three man group doing general practice. New community hospital and new clinic building under construction now, modern golf course, large lake, excellent hunting, excellent schools with no busing and no integration problems. 90 minutes from Dallas-Fort Worth. No investment necessary. Salary first year negotiable, with partnership after one or two years if desired. Contact K. J. Wharram, M. D. or A. D. Major, M.D., Nocona, Texas 76255. AC 817-825-3371.

FAMILY PRACTICE, with two other physicians. 50 bed hospital adjacent to clinic. Two nursing homes located in town. Large patient drawing area, good fishing, hunting, 8 miles to Lake Whitney, excellent schools, churches, and progressive small town. Guaranteed salary until established, partnership available in future. Contact Morris R. Hill, M. D. or James G. Barton, M. D. at Barton & Hill Medical Association, P. O. Box 546. Whitney, Texas 76692; phone AC817-694-2221.

GENERAL PRACTICE—Family practice with two other practitioners. New 43 bed hospital. No investments, other benefits negotiable to your desires, equal privileges, excellent income assured. Contact M. H. Shankles, Administrator, Shamrock General Hospital, 1000 South Main. Shamrock, Texas 79079. Telephone AC806-256-2114.

RADIOLOGIST WANTED: To join one other radiologist in Central Texas town of 60,000 for one year only. Might serve as base for locating permanent position. Most major metropolitan areas of Texas within easy driving distance. Write Ad-439, *Texas Medicine*, 1801 North Lamar Blvd., Austin, Texas 78701.

GENERAL PRACTITIONER OR INTERNIST for part-time work (10 to 12 hours per week) in industrial preventive medical program with petroleum firm in Corpus Christi area. Remuneration: $10,000 to $12,000 per year. Reply to Charles S. Ryan, M.D., 1608 Walnut Street, Philadelphia, Pennsylvania 19103 or call AC215-985-1600, Ext. 3310.

EMERGENCY ROOM PHYSICIAN—To become member of a 3-man group furnishing full-time emergency room coverage for active, modern, well equipped 288 bed JCAH hospital in North Central Texas within two hours drive of metropolitan areas, fishing and hunting resorts. Regular hours, none of the usual problems that are experienced in private practice, plus attractive guarantee. For more information call AC817-723-6767.

PHYSICIANS WANTED: INTERNIST AND/OR CARDIOLOGIST. AUSTIN. Excellent private practice opportunity for one or two internists, at least one of which should have subspecialty interest in cardiovascular disease. For details, write Ad-442, *Texas Medicine*, 1801 North Lamar Blvd., Austin, Texas 78701.

PHYSICIANS 750 bed hospital with large medical, surgical, psychiatric services, is in need of general and some subspecialty internists, and psychiatrists, with or without certification. Located in small, medically oriented city, close to large metropolitan areas. Excellent consultation and facilities available. Possible site for medical school. Salary competitive, ample vacation and sick leave, and fringe benefits. Equal employment opportunity agency. Apply Chief of Staff, VA Center, Temple, Texas.

PHYSICIANS WANTED—GENERAL PRACTITIONER AND GENERAL SURGEON: Cameron is located in Central Texas, with a population of 6,500 and trade area of 35,000. There is available a fully equipped clinic and 71 bed hospital. Physician potential net income $20,000 to $60,000 per year. For additional information, contact F. L. Gregory, Business Manager, Newton Clinic, P.O. Box 202, Cameron, Texas 76520. Telephone AC817-697-6624 or 697-2915.

STAFF PHYSICIAN NEEDED FOR STATE HOSPITAL. Progressive 1,000 resident state institution. Eligibility for Texas licenses required. 40 hour work week, paid vacation, sick leave, holidays, good retirement plan, group insurance. Kerrville is known as a retirement center. Prefer mature physician over age 50. Please contact Luther W. Ross, M.D., Superintendent, Kerrville State Hospital, P.O. Box 1468, Kerrville, Texas 78028, or phone 512-257-3211.

EXCELLENT CLINIC PRACTICE being vacated July 1973. New hospital, over 7,000 patient days last fiscal year; 44 bed nursing home across street. Clinic owned and equipped by hospital. Liberal clinic and financial arrangement. Immediate opportunity. For additional information contact Ad-448, *Texas Medicine*, 1801 North Lamar Blvd., Austin, Texas 78701.

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DESIRE PHYSICIAN—GP to locate in central Texas town of 3000. Very stable economy (manufacturing, oil, farming). New 22 bed hospital to be completed August 1973. Office space set up for physician already available. Metropolitan areas within 40-50 miles. Recreational activities—hunting, fishing, water sports, golf, civic clubs, etc. Please reply to Ad-449, *Texas Medicine*, 1801 North Lamar Blvd., Austin, Texas 78701.

GENERAL PRACTITIONER: Excellent location in the "Playground of West Texas." Growing community next to E. V. Spence Lake. Excellent small hospital (20 bed, JCAH approved) and nursing home (32 bed) complex. For additional information contact J. E. Quisenberry, Jr., Box 27, Robert Lee, Texas 76945.

PHYSICIANS WANTED: Am interested in securing a general practitioner, internist, or pediatrician to be associated with me and another GP. Guaranteed salary of $30,000 for first year. Would share office, office building, and expenses; however, you would have your own set of books. Please reply to Lee D. McKellar, M.D., Doctors Clinic, 203 West 20th Street, Mt. Pleasant, Texas 75455.

OPHTHALMOLOGIST—Active, established practice available July, 1973. Overhead sharing association, attractive office rented in professional building. Pleasant city of 90,000 has three church affiliated colleges, excellent hospitals and schools. Lakes, golf and tennis, hunting. For information, contact Hubert J. Seale, M.D., 1325 Hickory, Abilene, Texas 79601. Phone 915-673-3751.

GENERAL PRACTITIONERS: Association of six family practice physicians with large practice in rapidly growing area of Northeast Tarrant County (Hurst-Richland Hills area) needs two additional general practitioners to join group. Liberal arrangements for night call, time off, profit sharing plan, make this an ideal situation for the physicians interested in family practice in a suburban area near Dallas and Fort Worth. Salary or percentage or both for one year—*full* partnership after one year. Contact Nelson Houston, M.D., Northeast Medical Clinic, 7601 Glenview Drive, Fort Worth, Texas. Phone number 817-284-9251.

WANTED: PHYSICIANS to practice at Mexia State School, located in Central Texas just 30 minutes east of Waco. Many fringe benefits; retirement, sick leave, vacation, 40-hour week, group insurance. Salary range $23,000 to $26,000, depending on qualifications. An equal opportunity employer. Contact Personnel Officer, Mexia State School, Box 1132, Mexia, Texas 76667.

WANTED: INTERNIST to associate with well established internist in a new office with x-ray and clinical laboratory. Space available now. Across street from accredited hospital. City of 25,000 in drawing area of 100,000. Other specialties represented. Business arrangements open to negotiation. Excellent recreation close to Dallas-Fort Worth metroplex. Please reply to Ad-437, *Texas Medicine*, 1801 North Lamar Blvd., Austin, Texas 78701.

EXCELLENT OPPORTUNITIES for an internist, general practitioner, urologist or pediatrician in our medical office building. Assistance can be provided to aid in establishing practice. Rapidly growing town of 45,000 North Central Texas area. Please reply to Ad-454, *Texas Medicine*, 1801 North Lamar Blvd., Austin, Texas 78701.

GENERAL PRACTICE—PHYSICIAN WANTED in Castroville, Texas. Beautiful location, 20 miles west of San Antonio, Texas. Housing available. Three churches, public grammar and high school. Excellent fully equipped community hospital with full staff privileges. Office facilities available immediately. Extensive medical records for 18 years. Financial rewards limited only by the degree of effort extended. For additional information, please contact Robert R. Eckert, M.D., P.O. Drawer F, Castroville, Texas 78009; Phone AC512 538-2214.

OB/GYN URGENTLY NEEDED to practice in town of 14,000 located 25 miles from Dallas. Office space available. 72 bed J.C.A.H. hospital. Excellent opportunity. Please reply to Ad-455, *Texas Medicine*, 1801 North Lamar Blvd., Austin, Texas 78701.

Situations Wanted

OPHTHALMOLOGIST SEEKING POSITION IN TEXAS. Diplomate American Board of Ophthalmology. Internship, Michael Reese Hospital, Chicago. Basic ophthalmology, Kresge Eye Institute, Detroit. Residency in ophthalmology, Tulane University, New Orleans. Texas State Board of Medical Examiners, No. D 8860 license 1-13-73. Please contact Ad-440, *Texas Medicine*, 1801 North Lamar Blvd., Austin Texas 78701.

SEEKING RELOCATION: 38 years old, family physician (general practitioner) desires to practice in Texas, in a group or as associate with a view, to another GP in a community of 50,000 or more. Available July 1973. Reason for moving, can't stand very cold winters. Please reply to Ad-447, *Texas Medicine*, 1801 North Lamar Blvd., Austin, Texas 78701.

OVERWORKED GP DESIRES TO RELOCATE—TEXAS GULF COAST. Seeking full partnership with GP and much time off. Present annual income—solo—$300,000. Interested only in partnership with a diligent worker who will carry own weight. Details worked out mutually. Please contact Ad-451, *Texas Medicine*, 1801 North Lamar Blvd., Austin, Texas 78701.

BOARD CERTIFIED PEDIATRICIAN, currently assistant professor in one of the Midwestern universities, wants to relocate in Texas. Group practice or full time position in hospitals or universities preferred. Please reply to P. G. John, M.D., 1000 Austin Avenue, Evanston, Illinois 60202.

UROLOGIST, 34, married, children, university trained, FMG, board certified. Licensed in many states but desires to settle in Texas. Seeks association, solo or group practice. Prefers some academic or teaching affiliation. Please reply to Ad-422, *Texas Medicine*, 1801 North Lamar Blvd., Austin, Texas 78701.

SEEKING LOCUM TENENS for first three weeks in July. Completing internship and awaiting military assignment. For additional information contact Dennis Martin Lanier, M.D., Route 4, Box 813, Austin, Texas 78759. Telephone AC512 258-1030.

For Sale or For Rent

SOUTHEAST MEDICAL CENTER has customized suites available for immediate occupancy, 100 feet from Southeast Baptist Hospital. Ideal location in established quadrant of San Antonio where no medical specialists are offered. Only 17 minutes by freeway from downtown. Contact Manager, 4242 East Southcross, San Antonio 78222. Phone 222-2103.

MEDICAL OFFICE SPACE in modern "successful" established clinic building at Stella Link and North Braeswood. Large rooms. X-ray and laboratory. No parking problems. Near freeways. Excellent for pediatrician. OB/GYN and GP. 8525 Stella Link, Houston. AC713-664-4553.

SOLO GENERAL PRACTICE of 42 years. $20,000 inventory purchase price. Eight completely furnished rooms. X-ray, ECG, laboratory, etc. Four examining tables. Average 40 patients daily. Greatest bargain ever offered. Pay as you like. R. J. Van Sickle, M.D., AAFD, 700 North Fourth Street, Longview, Texas 75601. Phone AC214/758-4416 or 753-4177.

GENERAL PRACTITIONER, INTERNIST, PEDIATRICIAN, or other specialist wanted for newly constructed professional building in booming southwest Houston. Proximity to hospitals and freeway system. Centrally located in major growth area. Custom designed suites are available for immediate occupancy. For information contact Don Berthelsen, 8811 Frankway, Houston, Texas. Telephone AC713-664-6664.

AVAILABLE—50,000 square feet in new building for professional offices. Best area in Austin, Texas. Contact M. James Moritz, 5511 Balcones, AC512, 454-6080.

FOR SALE: Four rooms of medical equipment in excellent condition. Includes Burdick Microtherm, Liebel Flarshiem Diathermy, Trutrac Traction Unit. Also a Ritter hydraulic table, 2 Allison examination tables with matching cabinets and stools. Assorted tables, cabinets, pans and instruments. Also a Picker 100/100 MA "R-1" $843 with foot operated control table. Like new waiting room furniture. Also three rooms of office furniture, including metal desks, chairs and filing cabinets. Contact Mrs. J. M. Burnett, 1223 East Terrell Avenue, Fort Worth, Texas 76104. Telephone 332-2793.

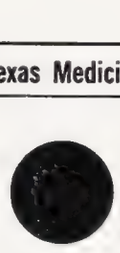
GENERAL PRACTITIONER, Spanish speaking preferred. Due to retirement of doctor after 25 years. Excellent location near long established pharmacy. Waiting room, office and treatment rooms partially furnished, with all utilities available. Reasonable lease. Write or call Mr. Loya, 1510 Quitman, Houston; telephone 1-713-227-4645.

FOR LEASE OR FOR SALE: I would like to lease or sell my building in Granbury, Texas, within two blocks of the lake. It is twelve years old, with ample parking, and is well equipped for general practice. Hospital privileges are available in the local Hood General Hospital. For information contact John G. Little, M.D., 310 West Bluff, Granbury, Texas 76048.

SOLO GENERAL PRACTITIONER, well established, desires a replacement 5/1/73 in San Antonio, Texas. Office adjacent to 600-bed general hospital. Financial arrangements to be discussed. Please reply to Ad-434, *Texas Medicine*, 1801 North Lamar Blvd., Austin, Texas 78701.

GENERAL PRACTITIONER WANTED: Excellent clinic for one or two physicians, near mid-Gulf Coast. Texas town over 5000 population, county seat of area serving 12,000. Centrally air-conditioned brick building located near town's first hospital which is now open. Owner, an MD recently retired. Will rent or lease reasonably. Also excellent hunting and fishing area. Contact Ad-452, *Texas Medicine*, 1801 North Lamar Blvd., Austin, Texas 78701.

Texas Medicine



Present your ideas in Texas Medicine

For details on submitting manuscripts, send for a copy of "Information for Authors."
Mrs. Marilyn Baker, Managing Editor
TEXAS MEDICINE
1801 North Lamar Blvd., Austin, Texas 78701

PRIVATE PRACTICE OPPORTUNITY

In one of the most desirable areas in the Texas Gulf Coast Area. Memorial City Professional Building, in the Memorial Drive-Spring Branch Area of Houston, Texas, has just completed a fifty-seven suite addition. The Professional Building now consists of one hundred twenty offices and is connected to a new two hundred bed general hospital.

Over two hundred thousand people reside within a six mile radius of the Professional Building. The physician to population ratio is excellent to produce a rewarding private practice in virtually every specialty. Family practice especially needed. Some hospital connected opportunities.

Write or call Howard E. Troutt, Executive Director, Memorial City Medical Center, 920 Frostwood Drive, Suite 283, Houston, Texas 77024, (713) 464-2711.

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ADVERTISING & BUSINESS OFFICES: Texas Medical Association, 1801 North Lamar Blvd., Austin 78701; Telephone 512-477-6704.

PRINTING OFFICES: Texas Medicine, c/o Stafford-Lowdon Company, 1114 West Daggett, Fort Worth 76104.

Editorials

VITAL SIGNS FOR SWEET AUBURN

"Even now, methinks, as pondering here I stand,
I see the rural virtues leave the land."

—*The Deserted Village,* Oliver Goldsmith.

On Feb 7, 1972, the Tom Green Eight-County Medical Society approved the establishment of the Committee for Community Health Service to maintain and promote primary health care for the residents of Coke, Concho, Crockett, Irion, Schleicher, Sterling, Sutton, and Tom Green Counties. Representing one of the geographically larger societies of the Texas Medical Association, the physicians of Tom Green County directed their attention to health care in the remote counties of the society area. Conscious of the trend toward organ specialists rather than people specialists, and of the trend toward concentration of medical talent within urban, not rural, communities, the members of the Committee hoped to encourage physicians already practicing in remote communities to continue to do so, and by their example to attract other physicians to primary health care in comparable towns.

The Committee for Community Health Service consisted of five physicians and one attorney. The attorney was included to advise on the feasibility of using methods adopted in other states to meet the needs for professional assistance (Medex, physician's assistant, etc) to the primary care physician.

In the frontier tradition of Texas, communities frequently overcame a hostile environment through the tenacity of a determined citizenry. Few persons contributed more to the flourishing of the community than did the local physician. Prairie communities with no physician frequently had no future either. The pioneer physician served primarily to support the spirit of patient and family as a disease ran its course. He was also the library, for his books and brain were a reference source frequently utilized by the townfolk. The pioneer physician served on the school board, the governing body of his church, committees of benevolence, and cultural groups. His serving as mayor, commissioner, or postmaster was not unusual; examples of such community service flourish in remote Texas communities today.

By direct interview with practicing physicians, the Committee for Community Health Service sought the elements of a successful family practice in a community remote from a medical center. Since the sample of physicians interviewed would be limited to an eight-county area, attention was directed to the entire western part of Texas to determine the secret of success in maintaining a successful rural practice. The Regional Medical Program of Texas provided a grant of $4,600; and Doris Jones, RN, was employed as field representative. Mrs. Jones grew up in the rural community of Olfen in West Texas, and worked in the hospitals and physicians' offices of remote communities. Hoping to make the interviews productive, Mrs. Jones did not ask physicians to fill out any forms; rather, she completed a narrative report after each interview. Information was considered to be privileged so that only Mrs. Jones and the project director, Dr. Chase, could relate material to specific physicians in specific communities. Mrs. Jones interviewed 60 different physicians in 41 communities in West Texas.

It was not surprising to find that the physicians were dedicated and industrious; they also were cordial—a quality requiring exclusive devotion of time to graciousness by physicians so busy that they frequently looked upon a personal illness as a variety of vacation. A letter from the Committee for Community Health Service was followed by a telephone call for appointment. The physician usually set aside an hour or more for the interview, visits with ancillary personnel, a tour of office and hospital, and often a cup of coffee and a meal. Mrs. Jones followed no set

routine in interviews, but hoped that a pattern of classifiable common interest among these physicians could be found. The primary common characteristic was individualism, refreshing and vitalizing.

As a result of our survey, we have developed a concept of a successful rural practice:

Person-Oriented Practitioner: To be a successful rural practitioner, the physician is obligated to understand and accept the rural style of life. While rural practice attracts individualists, they are seldom successful unless they are humanists as well.

Professional Competency: Professional competency is now taken for granted in considering any young physicians graduating from one of our medical schools.

Professional Assistance: Adequate professional assistance is a necessity. The nurse still is the physician's primary aide; some are registered nurses, some are licensed vocational nurses, and others are helpers trained by the physician himself in a community which formally-trained nurses have forsaken. If the physician is lucky, he has trained many nurses to care for his patients, and in urgent cases they can make house calls, suture lacerations, deliver babies, assist at surgery, and perform other duties which in more populous areas would be reserved exclusively for physicians. Not every successful practice has nurses. Some physicians have trained a pharmacist, a spouse, a school teacher, and even a policeman to become "the doctor's helper." Should the assistant need guidance, he or she merely has to call the nearby physician who is covering for his colleague. But the physician himself usually maintains communication with his office even when he is out of town.

Hospital Facilities: An available adequate hospital sustains a successful practice. Many physicians live no more than five minutes away from the local hospital. Many of these hospitals are models of efficiency and service. Nevertheless, rural areas are losing more hospitals than they are gaining, and the closing of a rural hospital is most commonly the result of staffing that does not meet Medicare standards. Usually this means that there are not enough registered nurses to cover all shifts of duty. In a community where the physician is lucky to have only one registered nurse to be his assistant, he can hardly be expected to meet government standards for registered-nurse staffing of the hospital as well.

Reliable Professional Consultation: Available, competent consultants are essential to the physician's relief. Most successful physicians in rural areas have established informal communication with their specialist colleagues in a larger city so that consultation, without charge to physician or patient, is conducted by telephone. Many rural physicians cited examples of patients being referred to a larger center for specialist care only to have the patient continue to see self-selected specialists rather than returning to the referring physicians for medical attention. While the vagaries of physician selection by patients defies simplistic solution, certainly the specialist can do more to encourage the patient to see his own physician in his own home town.

Effective Business Organization: Practice of sound business principles has made rural practice a means of productive livelihood. The rural physician once was one of the primary welfare agents in that he wrote off his bill for services to any person whom he knew to be in extremes of financial distress. Today the practice that has survived in a rural area is one utilizing modern accounting methods, computer services, and business management by capable individuals.

Community Concern: The physician is involved in community affairs. He reserves Friday night for service as team physician during football season; he may serve as mayor, as a member

of the local school board, and in many other capacities. Often he supports cultural activities and gives financial aid of one sort or another for the education of local youngsters. Certainly as the official or unofficial public health officer, he is called upon to address civic groups on current health problems.

Contented Family: The successful rural physician's family integrates itself willingly into community and professional responsibility. Certainly the personality traits desirable in the physician should be found in his wife as well, for she perhaps more than he will be obliged to participate in community activities. Good schools are a must for communities who wish to attract a physician.

Provision for Recreation and Education: The successful physician arranges for time away from his practice. Many have their own airplanes to reach metropolitan communities for vacation and ongoing education. The farsighted practitioner announces his vacation dates far ahead of time and tries to arrange for another physician to cover his practice.

Many doctors interviewed endorsed the plan of preceptorship for medical students to acquaint them with practice in remote communities. Only after being directly introduced to such practice could the student make a valid judgment between rural and urban practice. Preceptorship training has been deemphasized, we are told by our academic colleagues, because physicians frequently have exploited the preceptor's services to provide professional labor at low cost. Perhaps so, but such unreliable practitioners can be identified by academic institutions. We want the medical student to see the devoted, not the crafty, practitioner.

The physician needs help to continue to practice in a remote community. Most important he needs a well-trained nurse to whom he can delegate tasks of patient care. This nurse assistant today is as respected in the community as is the physician. Frequently she solves problems without bothering the doctor. Most physicians delegate as much responsibility for the professional assistance essential to patient care as they feel that the nurse is competent to perform. This physician-nurse team is the foundation on which successful practices have been built by the foresighted physicians of western Texas.

The doctor-nurse team usually has developed on the basis of chance, for the nurse usually is a person whose family is already located in the community either through the work of her spouse or by some accident related to the family she supports. The doctor-nurse team is so important that many programs in other states have been structured to form these teams even before the physician begins his practice in the remote community. The nurse practitioner is trained with the primary care physician during the last year of his residency and the last year of the nurse's training. The two of them enter practice together. Since the physician can hardly afford for his teammate to leave him, the nurse practitioner's status must be a permanent one, not one in which she is obligated to move about with her own family. For this reason the nurse practitioner must be the primary provider for the family and as such must earn the respectable salary necessary to support spouse and children.

Another nurse practitioner program attractive to the physicians we visited was that in which the physician would send his nurse to one of the training courses now being started in the Texas medical schools. The rural nurse would be given leave to attend a four- to six-months' course to qualify as a nurse practitioner. However, the rural physicians stated that they could not spare their nurses long enough for such training. Perhaps the nurse practitioner training programs might provide one or more of their trainees to serve as preceptors with the physician while his own nurse trained in the academic institution.

In reviewing Operation Auscultation we can

conclude that the work of the rural practitioner deserves greater study in order to impart to the academic institutions the practical aspects of successful practice in remote communities. When the young physician chooses small-town practice, he must do so objectively, having reached a decision based upon some practical experience and considered judgment. It was found that the rural physician considers himself not only isolated physically but also philosophically. As the demands of his own practice increase year by year, he has less time for interacting with his professional colleagues. Few rural physicians have arrangements for patient care in their absences so that they can attend county medical society meetings. Usually the meeting is held in an urban center of multiple counties, eg, in the eight-county area, the meetings are held in San Angelo. At the meetings of the Tom Green Eight-County Medical Society generally one rural physician is able to attend regularly. If the rural physician has little time to attend the meetings of his county society, certainly he has less time to attend the meetings of the Texas MedicalAssociation.

To give the views of the rural physicians the representation they deserve, the Committee for Community Health Service recommends that a resource and referral agency be established within the Texas State Department of Health in Austin. This agency could serve physicians who need a forum to inform their colleagues, the health department, the legislature, the Texas Medical Association, and the academic institutions of the requirements for delivering comprehensive care to their patients. The state health department might consider formalizing a function already being shouldered by the tuberculosis control nurses in their rounds of Texas communities. These nurses aid the local physician as they are available. It is proposed that the tuberculosis control nurses, each of whom represents one of ten regions in the state, interview either the physician or a member of his staff on each visit to a particular community. From each interview, any information of interest on a statewide basis would be given to the nurse who would in turn submit it to the central resource and referral agency, which would then be responsible for forwarding that information to the appropriate state agency, the Texas Medical Association, or the academic institution. To provide rural physicians with immediate consultation, the resource and referral agency could be placed in immediate telephone communication with a specialist. This referral function has been under consideration by Mr. Charles King of the state health department.

We conclude that the primary care physician is a human resource to be conserved. Nothing in these county-wide interviews indicate replacement of the rural physician with either a computer, a television monitor, or an institutional clerk. One commonly-voiced plan to solve rural medical health problems would establish an urban HMO (health maintenance organization) with satellite clinics manned by aidemen in the schoolhouses of rural communities. Certainly such a plan could alleviate the medical problem, but what of the sociological problem: the deterioration of the quality of life in the rural communities? History has assessed the frontier doctor's role as vital to the growth and development of the pioneer settlement. The Committee for Community Health Service believes that the family physician is no less important to the remote community today.

Ralph R. Chase, MD, and Doris Jones, RN, San Angelo.

What's on your patient's face...

may be more important than his chief complaint

Patient P.T.* seen on 3/29/67 shows typical lesions of moderately severe keratoses. Note residual scarring on ridge of nose from previous cryosurgical and electrosurgical procedures.

Patient P.T.* seen on 6/12/67, seven weeks after discontinuation of 5% FU cream. Reaction has subsided. Residual scarring not seen except that due to prior surgery. Inflammation has cleared and face is clear of keratotic lesions.

*Data on file, Hoffmann-La Roche Inc., Nutley, N.J

The lesions on his face are solar/actinic— so-called "senile" keratoses... and they may be premalignant.

Solar, actinic or senile keratoses

These lesions may be called by several names, but they usually can be identified by the following characteristics. The typical lesion is flat or slightly elevated, of a brownish or reddish color, papular, dry, rough, adherent and sharply defined. They commonly occur as multiple lesions, chiefly on the exposed portions of the skin.

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Precautions: If applied with fingers, wash hands immediately. Apply with care near eyes, nose and mouth. Lesions failing to respond or recurring should be biopsied.

Adverse Reactions: Local—pain, pruritus, hyperpigmentation and burning at application site most frequent; also dermatitis, scarring, soreness and tenderness. Also reported—insomnia, stomatitis, suppuration, scaling, swelling, irritability, medicinal taste, photosensitivity, lacrimation, leukocytosis, thrombocytopenia, toxic granulation and eosinophilia.

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Become Influential--Become Involved

The policies and actions of the Texas Medical Association are developed through the House of Delegates made up of representatives of each local medical society. Every society has a delegate for each 100 members or fraction thereof; therefore, every member of the Texas Medical Association, no matter who he is or where he lives, has someone representing him in the House. If he is to serve adequately, he must know the members' feelings concerning medical issues. This brings about involvement in the sense that the member must keep abreast of current medical issues. The TMA sends *TMA Action*, newsletters, and *Texas Medicine* to all members, and frequent mailings go to county society presidents and secretaries. Unfortunately, too often these materials are discarded before they can be read, studied, and decisions made. Only a small amount of time is needed to check this correspondence and give a considered opinion to your delegate.

Most of the TMA work is done by the committees, councils, boards, and reference committees. Each year, your President and staff spend a great deal of time on the appointments to these working units. You can become involved with the actual policy making decisions of these groups.

It is extremely important that each member of TMA become acquainted with his senator and representatives. When they know of his interest, they will listen to his opinions about proposed legislation and be much more receptive to the physician's views. At the January Legislative Seminar, the speakers stated their interest in knowing their doctors on a first name basis so that they could pick up the phone and receive advice on medical affairs in a friendly and forthright manner. Involvement at this level will immeasurably benefit the practice of medicine over the entire state.

It is imperative that all TMA members become involved at the local level. This can be accomplished through multiple means such as becoming involved in local civic and health organizations, municipal governments, school boards, parent-teacher groups, and church and religious organizations. Local involvement will be beneficial to the entire practice of medicine, and will bring a great sense of satisfaction to the individual performing these tasks.

And finally, a sincere involvement in the welfare of his own patients will bring the greatest blessing of all: that of a patient, satisfied with our present medical practice, who does not wish to overthrow our present private practice of medicine for an impersonal government controlled medical practice.

Charles B. Dryden MD

Charles B. Dryden, MD, President, Texas Medical Association.

Texas Medicine

Baylor drug symposium: a student body campaign

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Adverse Reactions: Drowsiness, ataxia and confusion may occur, especially in the elderly and debilitated. These are reversible in most instances by proper dosage adjustment, but are also occasionally observed at the lower dosage ranges. In a few instances syncope has been reported. Also encountered are isolated instances of skin eruptions, edema, minor menstrual irregularities, nausea and constipation, extrapyramidal symptoms, increased and decreased libido—all infrequent and generally controlled with dosage reduction; changes in EEG patterns (low-voltage fast activity) may appear during and after treatment; blood dyscrasias (including agranulocytosis), jaundice and hepatic dysfunction have been reported occasionally, making periodic blood counts and liver function tests advisable during protracted therapy.

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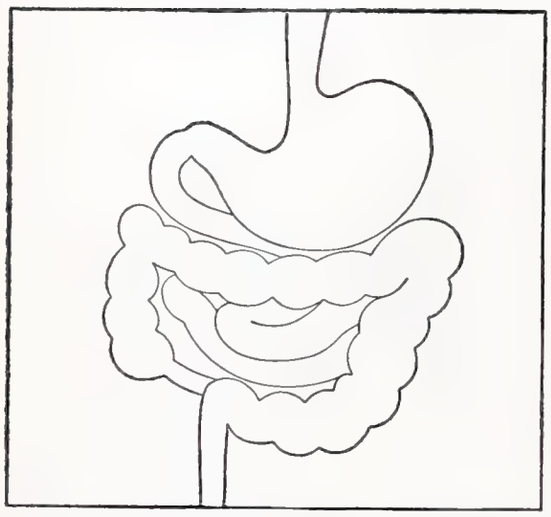

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VOL 69 JUNE 1973

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Subscriptions: $3 per year for members; $6 for nonmembers; $8 for foreign; $5 for libraries, hospitals, and universities; $3 for medical students. Single copy: $1.

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ON THE COVER

The design graphically portrays the subject of this month's symposium—drugs which have a high potential for abuse. The articles were prepared by members of the SAMA Drug Information Committee, Baylor College of Medicine, Houston. John B. Rose is chairman of the Committee. John M. Harris, Jr., is coordinator for the symposium.

NEXT MONTH

In July, *Texas Medicine* will publish a symposium on the management of renal disease. Topics will be diagnostic considerations in secondary hypertension; clinical evaluation of kidney function; proteinuria and the nephrotic syndrome; determination of diet orders by analysis of laboratory values; use of diuretics in nonedematous states; electrolyte disturbances resulting from diuretic therapy; drug therapy in renal disease—antibiotics; drug therapy and renal disease—cardiac drugs; and toxic nephropathies.

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NEWS

HMO, drug substitution, certificate of need, fail to get approval of Texas Legislature

Several bills of interest to the medical profession were acted upon by the Texas Legislature during the closing weeks of the 63rd session. There were some 300 health-related proposals presented to lawmakers during this session. Action taken on some of the major ones includes:

Health Maintenance Organizations: HB 1488 by Mickey Leland of Houston would have allowed any person, firm, or corporation, including an insurance company, to form an HMO and deliver health care through physicians hired by that entity. This bill was reported favorably out of committee, but never gained enough support to suspend the rules for a vote.

Drugs: HB 546, also by Leland, would have provided for the mandatory prescribing of generic drugs, repealed anti-substitution laws, and set up a state Drug Formulary Commission. A motion to report HB 546 favorably from the House Human Resources Committee failed to receive a majority vote.

Chiropractic: SB 277 would have required mandatory chiropractic coverage in private accident and health insurance policies. This bill was never reported out of the Senate Human Resources Committee.

Medical Education Board: HB 683 by W.S. "Bill" Heatly of Paducah has been passed by both houses and is now awaiting the signature of the governor. This bill creates a Medical Education Board to give grants, loans, or scholarships to medical students who agree to practice in rural areas. HB 683 was supported by the Texas Medical Association.

Board of Health: HB 304 by R.C. "Nick" Nichols of Houston et al, would have increased membership on the State Board of Health from 9 to 15 members. The bill was reported favorably out of committee, but failed to be brought up on a motion to suspend the rules.

Insurance: SB 854 by W.E. "Pete" Snelson of Midland provides for the removal of the 14-day exclusion of newborns from insurance

coverage. This bill has passed both houses and is awaiting the governor's signature.

Certificate of need: HB 512 by Don Cavness of Austin was reported favorably out of committee but was never placed on the calendar for House consideration. This bill would have amended statutes relating to licensing, inspection, and regulation of medical care facilities.

Controlled substances: HB 447 by Tim Von Dohlen of Goliad passed both houses and is awaiting signature by the governor. This bill repeals the Dangerous Drug Act, creates the Texas Controlled Substances Act, and, as passed, includes amendments proposed by TMA.

Optometry: HB 50 by Dave Allred of Wichita Falls relates to joint training programs of Midwestern University and Sheppard Air Force Base. It passed both houses with amendments proposed by the Texas Ophthalmological Association, and TMA, and is now awaiting signing. A complete legislative report, prepared by TMA's legal counsel, will be published in the July issue of *Texas Medicine*.

Texas delegates to take 13 proposals to AMA House

A 9-member delegation from the Texas Medical Association, assisted by some 35 other Texas physicians and medical society executives, will carry 13 resolutions to the annual meeting of the AMA House of Delegates to be held June 23-28 in New York.

The resolutions were approved for presentation to the AMA House by the TMA House of Delegates meeting in Dallas last month.

At its May meeting, the TMA House authorized the Board of Trustees to begin working to charter a corporation which would qualify under law to serve as a Professional Standards Review Organization. At the same time, however, the House voted to work for repeal of Section 249F of Public Law 92-603. Accordingly, Texas delegates will present a resolution to the AMA House calling for members of congress to work for repeal of PL 92-603, Title II, Part B, Section 249F "in all manners feasible."

Another resolution to be presented concerns the formulation of legislation to make the *Federal Register* give fairer and more reasonable notice of the promulgation of regulations which have the

NEWS

Texas delegates to the American Medical Association's House of Delegates met in Dallas during Annual Session to discuss issues to be brought before the AMA House at its meeting this month.

force of law. The proposal specifically calls for the AMA to urge formulation of federal legislation to extend the grace period within which *Federal Register* entries can be appealed to 120 days in all cases; to extend the right of any citizen or group of citizens to legally challenge any entry in the *Federal Register* within the grace period by a civil suit brought in federal court; and/or to urge that any entry in the *Federal Register* must be submitted to Congress for passage if letters of protest number more than 1,000.

In another resolution, the Texas delegation will ask the AMA House to protest the use of surgical predetermination forms by Aetna Life and Casualty. The resolution says the forms are unacceptable because they increase the cost of medical care by unnecessarily increasing the paperwork for physicians; call for a diagnosis and fee which are not always known in advance; ask for information which is unknown, along with estimates, which when used with computer statistics, would be inaccurate and misleading; and lower the quality of medical care by attempting to fix fees in advance, and thereby place medicine on an "auction basis." The resolution also calls for the AMA Council on Medical Service to confer with Aetna officials, asking them to discontinue use of the forms, and that the House of Delegates reiterate the AMA's support of direct billing.

Other resolutions to be presented call for the AMA to oppose all laws relating to Phase III economic controls and work for their repeal; that the AMA House of Delegates urge hospitals to make copies of final hospital bills for their patients available either routinely or on request; and that the AMA solicit the support of the American Hospital Association in this endeavor.

Topics of other resolutions concern medical care costs in tax-supported institutions; voluntary hospitals under the National Labor Relations Act; insurance coverage for newborns; emergency medical services; the creation of residency training programs in allergy; and commendation of the US Army for its MAST (Military Assistance to Safety and Traffic) program.

Texas delegates to the AMA House are Drs. Joe T. Nelson, Weatherford, chairman; Charles Max Cole, Dallas, vice chairman; Harvey Renger, Hallettsville; Haden E. McKay, Humble; J.E. Miller, Dallas; N.L. Barker, Paris; Walter Walthall, San Antonio; James D. Murphy, Fort Worth; and R.D. Moreton, Houston.

Texas Medical Foundation elects board of directors

The Texas Medical Foundation is continuing to make progress in establishing itself as a fully functioning entity. Most recently, the corporate body of TMF elected a board of directors, and that board has elected officers and adopted priorities for action in the coming months.

Dr. Joseph T. Painter of San Antonio has been elected to serve as president of the TMF Board of Directors. Vice president is Dr. Sam N. Key, Jr., Austin. Dr. Sheridan S. Evans, McAllen, will serve as secretary, and Dr. James

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NEWS

A. Hallmark, Fort Worth, is treasurer.

Among the priorities established by the board at a recent meeting are recruitment of members; data collection and data program development; the establishment of a migrant health program and review program; and family planning and medical information storage.

At a meeting of the corporate body (members of TMA's House of Delegates) held in conjunction with the TMA Annual Session in Dallas, a 20-member board of directors was elected. Members of the board are:

Dr. James L. Johnson, Amarillo, region one; Dr. Jesse Cone, Odessa, region two; Dr. John D. Martin, El Paso, region three; and Dr. Braswell Locker, Brownwood, region four.

Region five, which includes the Dallas-Fort Worth area, will have five representatives on the board. They are Dr. James Hallmark, Fort Worth, place one; Dr. Louis Theimer, Wichita Falls, place two; Dr. P. E. Luecke, Jr., Dallas, place three; Dr. Thomas H. Allison, Dallas, place four; and Dr. Dorthy Patras, Fort Worth, place five.

In region six, which includes Travis County, directors are Dr. Ruth Bain, Austin, place one; and Dr. David Dow, Waco, place two. Dr. Fred M. Roberson of Linden is the board member for region seven, which comprises an area in northeast Texas.

In region eight, which includes Harris and Galveston Counties, board members are Dr. Joseph T. Painter, Houston, place one; Dr. H. G. Bell, Conroe, place two; Dr. Jerry Marcontell, Houston, place three; Dr. Rodney Rodgers, Houston, place four; and Dr. W. J. Jinkins, Jr., place five.

Directors for region nine, which includes Bexar County, are Drs. George Livesay, place one, and Reagan Hicks, place two. Both physicians are from San Antonio. Board member from region ten is Dr. Sheridan S. Evans of McAllen.

AMA council condemns use of MDs' names in ads

The Judicial Council of the American Medical Association has reaffirmed its stand, and the ethical tradition which holds that it is demeaning for a physician to permit the use of his name and professional status in the promotion of commercial enterprises.

In making the statement, the council expressed concern that the practice is becoming more frequent. "At this time," the council statement said, "the Council sees definite evidence of a break with ethical tradition. Commercial advertisements carrying the name, photograph and professional appointments of physicians are conspicuous in both public and professional periodicals.

"Regardless of disclaimers and alleged educational claims for the ad," the statement continued, "the intent of using a physician's name and photograph in an advertisement is simply to draw attention to the ad. The physician who permits his name and photograph to be so used is permitting himself and his profession to be exploited."

The House of Delegates of the Texas Medical Association expressed a similar concern in 1965, and reaffirmed its support of the Principles of Medical Ethics of the AMA. That policy, of course, is still in effect.

The AMA council said in its statement that if the facts of a particular case indicate that "the honor and dignity of the profession are denigrated," then charges of conduct contrary to section 4 of the Principles of Medical Ethics should be brought before and fully reviewed by the ethics committee of the physician's component county medical society.

The specific policy which the AMA council reaffirmed is, "It is demeaning to the medical profession for a physician to permit the use of his name and professional status in the promotion of commercial enterprises.

A physician may freely engage in business ventures outside the practice of medicine. However, out of respect for his profession, he should not allow his name or the prestige of his professional status as a physician to be used in the promotion of a commercial enterprise."

In concluding the statement, the council said, "The Council condemns as unethical the action of the physician who *is found* to place personal, selfish, financial, or venal interests ahead of the high ideals of the medical profession."

3 Texas hospitals using nuclear-powered pacemakers

Santa Rosa Medical Center in San Antonio has become the third Texas hospital to be licensed to implant nuclear-powered pacemakers in humans. Texas Heart Institute and Methodist Hospital in Houston have also received approval from the Texas State Department of Health to work with the new devices.

The nuclear-powered pacemakers are expected to have many advantages over the conventional battery-powered units, according to Dr. Paul Klinger, one of the supervisors of the program at Santa Rosa. He said the nuclear unit is expected to last at least 10 years and perhaps more. Present battery-powered pacemakers have a lifespan of only two to three years.Thus, patients using the nuclear-powered unit will not have to undergo the trauma of successive implantations every two to three years. This also reduces the cost of repeated hospitalization and surgical fees.

Joe Gorrell, supervisor of radioactive material licensing for the health department, says that the nuclear units are powered with a plutonium 238 battery placed inside a capsule. The battery gives off alpha radiation, which produces heat. The heat is converted into electricity via a thermoelectric generator, said Gorrell.

There is virtually no danger to the patient or to hospital personnel in handling the units,said Dr. David L. Goff, Santa Rosa physicist who is serving as radiation safety officer. He said the radiation involved is equivalent to one chest x-ray per year per patient.

Each of the three hospitals have been licensed to implant a specific number of the units, which are about the size of an old fashioned railroad watch. Gorrell explained that during the first phase of the program, each hospital team is charged with keeping extensive records, and conducting periodic checks of patients in whom the pacemakers have been implanted. In addition, the hospital team must keep track of the devices, and recover them if the patient should die. All implantations must be reported to the state health department.

Because of a higher initial cost—approximately $5,000—younger patients will generally be considered better candidates for atomic implantations. Dr. Klinger said that manufacturer's specifications now call for patients 18 years and older, but that permission my be granted for use of the device in younger patients after some experience has been gained. Health department regulations require that each hospital have a committee to review candidates for implantations.

In order to obtain a license for use of the devices, each hospital must submit a research protocol which has been approved by the Atomic Energy Commission (AEC), said Gorrell.

After the teams at the three hospitals have implanted their quotas of the pacemakers, and monitored their actions, an evaluation will be conducted to determine the future of the programs, he explained.

The units are manufactured by Medtronic Sales, Inc., of Minneapolis, Minn. Gorrell said that the first US implantation of one of the devices was made only about two months ago, and that several major US medical centers are now conducting research programs using the pacemakers.

NEWS

Pharmacologist predicts potential opium shortage

A Washington, DC, pharmacologist has told *American Medical News* (AMN) that the United States is running out of legitimately produced opium, a substance used in a variety of analgesic drugs.

As a result, there may be shortages of morphine, codeine, and a long list of other analgesics derived from the opium alkaloids, Dr. William T. Beaver told a representative of the AMA publication.

Included in the list of drugs which Dr. Beaver feels may become scarce are morphine, codeine, paregoric papaveretum, hydromorphone, oxymorphone, nalophine, naloxone, dihydrocodeine, hydrocodone, oxycodone, papaverine, noscapine, and thebaine (which is not used medically, but is used to synthesize other agents).

Dr. Beaver attributes the shortage of legitimate opium to US efforts to discourage opium production abroad.

Dr. Beaver declared that the policy is ill-advised "not because heroin abuse should be neglected but because consideration should be given to the legitimate medical needs of patients."

Although Dr. Beaver concedes that synthetic narcotic analgesics can sometimes be substituted for drugs made from opium and its semisynthetic derivatives, he cautions that some of the synthetics may have deleterious side effects, and potential for abuse.

"Were codeine removed from the market," Dr. Beaver said, "huge numbers of patients whose pain problems are being adequately managed with it would have to be given drugs with unquestionably greater abuse potential, such as meperidine or methadone."

The only other alternative, he says, is simply relieving less of a patient's pain.

"Propoxyphene (Darvon) is the only drug on the market with properties comparable to those of codeine," Dr. Beaver said, and it is perhaps half as potent. Thus, double dosages would have to be given, and in many instances, this would exceed recommended dosages.

A short-range solution may be the release of some of the opium held by the federal government in emergency stockpiles. There have been indications that this may be done, according to AMN.

However, Dr. Beaver said that the US should consider "re-thinking" its policy about discouraging opium production, and weigh the costs of the war on heroin against the effects on medical practice around the world.

"It's gratifying to see a pleased hair transplant patient."

Four 14-day 'adventures' await TMA members in 1974

TMA members who may be suffering from a touch of wanderlust will be happy to know that the board of trustees has approved the scheduling of four Association-sponsored 14-day trips in 1974. In addition, the board expects to approve one or more eight-day trips for next year.

The 14-day trips which have been approved include a South American Adventure, departing Feb 22, 1974, with stops in Quito, Ecuador, Buenos Aires, Argentina, and Rio de Janeiro, Brazil. Departing on June 2 and June

6, the European Adventure promises the traveler fun in Geneva, Switzerland; Vienna, Austria; and Berlin. Then, on July 21, it'll be "all aboard" for the Orient Adventure, with stops planned in Japan and Hong Kong. Finally, on Sept 24, travelers will depart for a Mediterranean Adventure Air-Sea Cruise through the Mediterranean and the Greek isles, with stops at ports along the way.

There are two remaining TMA-sponsored trips in 1973. On Oct 19, the Orient Adventure will begin, lasting 14 days. Then, on Dec 21 and 22, the eight-day Aloha Holiday will depart for Hawaii.

For more information on TMA travel programs, interested parties should write Mrs. Jeanette Prentice,travel coordinator, Texas Medical Association, 1801 N Lamar, Austin 78701. Mrs. Prentice can be reached by telephone at 512-477-6704.

Drug-resistant typhoid strain attacking travelers in Mexico

Travelers returning from Mexico are bringing back cases of typhoid fever that resist commonly used typhoid drugs, according to a report in the *Journal of the American Medical Association*.

At least seven cases of typhoid fever caused by chloramphenicol-resistant strains of microbes have been imported into the United States from northern and central Mexico, where typhoid is now epidemic, the report says.

Chloramphenicol is generally accepted as the medication of choice for treatment of typhoid. Other drugs sometimes used are streptomycin sulfate, tetracycline, and sulfonamides. These also do not affect the resistant microbes.

The typhoid strains cause drug resistance similar to that encountered in the last few years in severe dysentery in some Latin American countries. The drug-resistant dysentery also has been found in the United States, apparently imported via pet monkeys from Nicaragua, the researchers state.

In reporting on the case of a 27-year-old man who became ill following a week in Acapulco, the authors of the article say that his typhoid fever failed to respond to the usual drugs, but finally responded to massive doses of an alternate drug, ampicillin trihydrate, and that the patient recovered. The patient told the medical team that he had been careful not to drink the water while in Acapulco, but that he ate local foods and drank beverages made with ice. The ice had been made with local water.

Although the patient appeared to benefit from very large doses of ampicillin, the possibility of resistance to this agent must be borne in mind, the report points out.

The American Medical Association points out that vaccination against typhoid fever is both practical and effective. Except with unusual exposure, immunity is reasonably sure for 12 months, and generally lasts for a number of years.

Annual Session exhibitor finds error in poisoning booklet

An error was contained in a booklet distributed by a technical exhibitor to physicians attending the TMA Annual Session in Dallas last month.

James L. Hawkins, project coordinator for Region VI of the US Environmental Protection Agency (EPA), says the error was contained in the booklet, *Diagnosis & Treatment of Poisoning by Pesticides*. The booklet was distributed to a large number of physicians and guests who visited the booth at the Fairmont Hotel, said Hawkins.

In the section on "Classification and Therapy of Organophosphate Poisoning" on page 15, a statement on treatment of severe poisoning advised that atropine sulfate should be administered "5 g intravenously every 20 to 30 minutes." Hawkins says that the statement should read "5 mg intravenously."

Your help is needed to inform Texans about the seriousness of venereal disease.

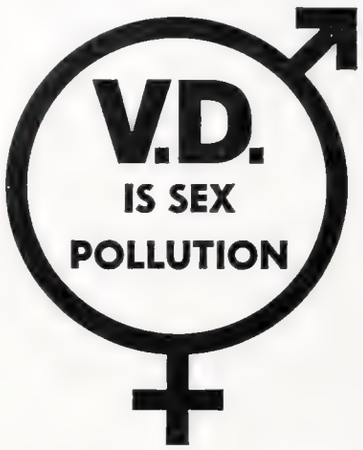
Venereal disease continues to strengthen its position as the number one communicable disease in the nation simply because people are not aware of the seriousness of the VD problem within their own communities or of the dangerous consequences of the disease.

Texas had the highest syphilis rate in the nation last year and also ranked very high in the incidence of gonorrhea.

As part of an educational program on VD, the Texas Medical Association has produced an informative pamphlet for free distribution to the public. You can help by ordering this pamphlet and distributing it in your community.

Particular attention needs to be directed toward young people. The majority of venereal disease cases in Texas are among the 15 to 24 year old age group and our state now is reporting 10 percent of all the venereally infected young adults in the nation.

Your assistance is needed to help control the serious spread of VD in Texas.



get the facts / seek early treatment

The venereal diseases syphilis and gonorrhea have become the number one infectious disease problem in the U.S. More than one million new cases are contracted each year. The use of penicillin and other antibiotics to cure VD brought a drop in reported cases after World War II, but in the last 10 years the rate has increased sharply because people with VD have not sought treatment. Texas in 1969 had the highest syphilis rate in the nation and also ranked very high in the incidence of gonorrhea.

WHO'S GETTING IT? Over half of all new VD infections are found in teenagers and young adults under 25 years of age. Texas now is reporting 10 percent of all the venereally infected young adults in the nation.

Young people should realize the possible dangers of promiscuous sexual behavior or "free love." VD is *not* contracted from towels, dishes, or public toilets. It *is* spread through intimate contact, primarily sexual intercourse, with someone who has the disease.

ORDER THIS INFORMATIVE PAMPHLET TODAY

— FREE —

FROM TMA

CLIP AND MAIL TO: PUBLIC RELATIONS DIVISION
TEXAS MEDICAL ASSOCIATION
1801 NORTH LAMAR BLVD.
AUSTIN, TEXAS 78701

Please send me_____copies of the pamphlet, "VD Is Sex Pollution."

Name_____

Address_____

City_____ **State**_____ **Zip**_____

PRESCRIBING INFORMATION

Antiminth (pyrantel pamoate) Oral Suspension

Actions. Antiminth (pyrantel pamoate) has demonstrated anthelmintic activity against *Enterobius vermicularis* (pinworm) and *Ascaris lumbricoides* (roundworm). The anthelmintic action is probably due to the neuromuscular blocking property of the drug.

Antiminth is partially absorbed after an oral dose. Plasma levels of unchanged drug are low. Peak levels (0.05-0.13μg/ml.) are reached in 1-3 hours. Quantities greater than 50% of administered drug are excreted in feces as the unchanged form, whereas only 7% or less of the dose is found in urine as the unchanged form of the drug and its metabolites.

Indications. For the treatment of ascariasis (roundworm infection) and enterobiasis (pinworm infection).

Warnings. *Usage in Pregnancy:* Reproduction studies have been performed in animals and there was no evidence of propensity for harm to the fetus. The relevance to the human is not known.

There is no experience in pregnant women who have received this drug.

Precautions. Minor transient elevations of SGOT have occurred in a small percentage of patients. Therefore, this drug should be used with caution in patients with pre-existing liver dysfunction.

Adverse Reactions. The most frequently encountered adverse reactions are related to the gastrointestinal system.

Gastrointestinal and hepatic reactions: anorexia, nausea, vomiting, gastralgia, abdominal cramps, diarrhea and tenesmus, transient elevation of SGOT.

CNS reactions: headache, dizziness, drowsiness, and insomnia. Skin reactions: rashes.

Dosage and Administration. *Children and Adults:* Antiminth Oral Suspension (50 mg. of pyrantel base/ml.) should be administered in a single dose of 11 mg. of pyrantel base per kg. of body weight (or 5 mg./lb.); maximum total dose 1 gram. This corresponds to a simplified dosage regimen of 1 cc. of Antiminth per 10 lb. of body weight. (One teaspoonful = 5 cc.)

Antiminth (pyrantel pamoate) Oral Suspension may be administered without regard to ingestion of food or time of day; and purging is not necessary prior to, during, or after therapy. It may be taken with milk or fruit juices. Because of limited data on repeated doses, no recommendations can be made.

How Supplied. Antiminth is available as a pleasant tasting caramel-flavored suspension which contains the equivalent of 50 mg. pyrantel base per ml., supplied in 60 cc. bottles.

ROERIG Pfizer
A division of Pfizer Pharmaceuticals
New York, New York 10017

Clean sweep

with a single dose of Antiminth (pyrantel pamoate) ORAL SUSPENSION

Highly effective against pinworm and roundworm

Non-staining to teeth or oral mucosa on ingestion, to stools, clothing, linen

Simple dosage with a single-dose regimen: 1 cc. per 10-lb. body weight (1 tsp./50 lb.; maximum dose, 4 tsp.)

Well-tolerated, based on clinical studies*

Pleasant-tasting, easy-to-take, caramel-flavored oral suspension

Economical, because one prescription can treat the entire family

ROERIG Pfizer
A division of Pfizer Pharmaceuticals
New York, New York 10017

ANTIMINTH®
(pyrantel pamoate)

equivalent to 50 mg. pyrantel/ml.

ORAL SUSPENSION

While Antiminth is highly effective against pinworms and roundworms, the illustration is not meant to imply 100% efficacy.

*Data on file at Roerig.

Please see prescribing information on facing page.

NEWS

UTMSSA gets funds to study Sudden Infant Death Syndrome

Some 10,000 infant deaths each year in the US are said to be attributable to unknown causes which have been termed "Sudden Infant Death Syndrome" (SIDS).

New research into this unpredictable infant mortality cause is under way at The University of Texas Medical School at San Antonio. The research is made possible by a gift of approximately $100,000 from Mr. and Mrs. John A. Nuhn of Austin and Dr. and Mrs. Byron Williamson of Dallas.

The announcement of the SIDS research fund was made by Drs. Frank Harrison, president of The University of Texas Health Science Center at San Antonio, and Stanley Crawford, dean of the San Antonio medical school, following recent formal acceptance of the gift by The University of Texas System Board of Regents.

A laboratory at the medical school has been named for Jason Alan Nuhn who died of SIDS. He was the infant son of Mr. and Mrs. Nuhn, and grandson of Dr. and Mrs. Williamson.

According to the terms of the SIDS research fund trust, the medical school, under the supervision of Dr. J. B. Norton, assistant professor of pediatrics, will conduct research and publish results directed toward a better community understanding of the problem and possible prevention.

Dr. Norton explains that monitoring of high risk infants for many weeks in medical school-affiliated newborn nurseries will assist researchers studying SIDS to learn what normal variations occur in heart rate, respiratory rate and skin temperature.

To accomplish this monitoring, scientists at Southwest Research Institute of San Antonio have engineered tiny devices which will be sewn into the infants' shirts and will record physiologic data. The transmitter is battery operated and is sewn into the diaper shirt. It is approximately half an inch thick and 1½ x 2½ inches in size and is molded in a soft plastic material so as not to be uncomfortable as the infant lies on it.

"The data is telemetered or transmitted to a continually operating tape recorder and the data from the tape recorder is fed into a computer where many hours of recorded physiologic data can be reviewed in a few minutes," Dr. Norton explained.

In establishing the fund, the donors' intent is to get needed research under way. A voluntary organization—Sudden Infant Death Research Association (SIDRA)—is being established to assist parents who have suddenly lost a child to SIDS and to raise funds for furthering the research effort.

Those interested in the new organization are asked to contact Mr. John A. Nuhn, Box 386, Austin 78767.

UT Southwestern gets computer science department

A Department of Medical Computer Science began operating May 1 at The University of Texas Southwestern Medical School at Dallas.

Chairman of the department is Dr. David J. Mishelevich, who is also director of the Medical Computing Resources Center, announced Dr. Charles C. Sprague, president of the UT Health Science Center at Dallas.

The objective of the department is to accent computer use at the institution in order to produce health professionals and scientists who use the machines as a natural tool.

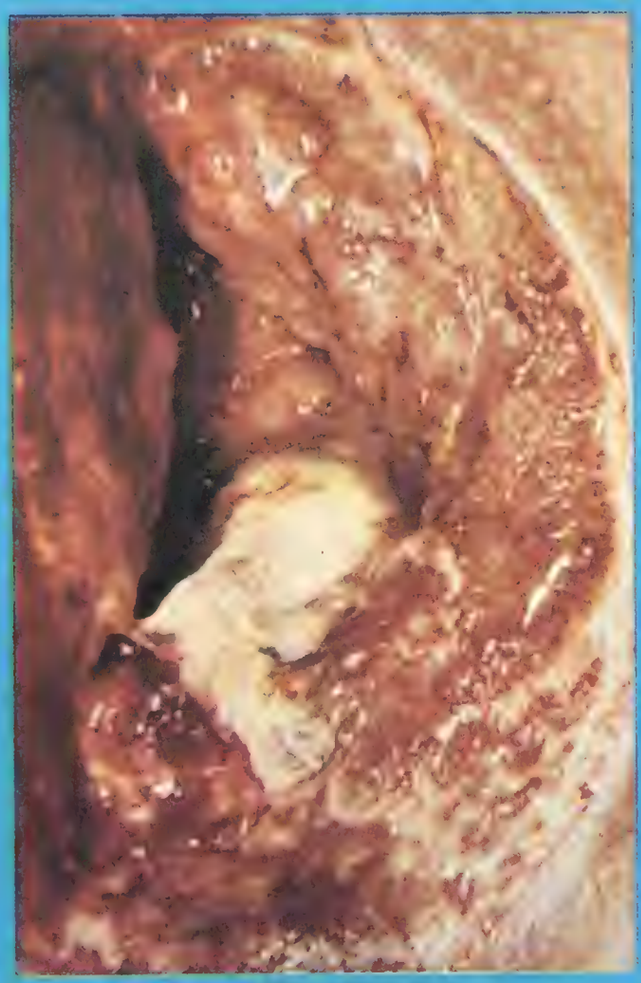
Faculty of the new department includes the staff of the present Medical Computing Resources Center, which remains part of the Health Science Center.

Decubitus Ulcers Yield to

Travase® Ointment

brand of **Sutilains**

Before treatment, necrotic matter coated the inner surfaces of this decubitus ulcer.



After six days of TRAVASE therapy, debridement is nearly complete and granulation evident.

Adjunctive Therapy—Observe Its Effects in 48 hours
When the recommended nursing technique is followed without deviation, this procedure can generate visible improvement within 48 hours of treatment. If no dissolution of slough occurs by then, further application is unlikely to be rewarding (recheck for break in procedure, usually due to use of cleansing or antiseptic agents which impair the effectiveness of the enzyme in TRAVASE).

Clinical observation and photos by Kathleen Brough Oldham, M.D., Marion County Home, Indianapolis, Ind.

Please see next page for prescribing information

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Permit No. 39
Deerfield, Ill.

BUSINESS REPLY MAIL No Postage Stamp Necessary If Mailed in the United States

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Travase® Ointment brand of Sutilains

APPLICATION TECHNIQUE: TRAVASE Ointment is indicated as an adjunct to established methods of wound care for biochemical debridement. It dissolves and facilitates the removal of necrotic tissues and purulent exudates.

TRAVASE enzymes are selective. Virtually inactive on viable tissue.

When this recommended nursing technique is followed without deviation, this procedure can generate visible improvement within 48 hours . . .

(Ulcer being irrigated) Thoroughly cleanse and irrigate the wound area using **only** sterile water or sodium chloride solution. Be sure to cleanse the wound of any antiseptics or heavy-metal antibacterial agents which may interfere with the enzyme activity.

Thoroughly soak the wound area. Where practical, tubbing or showering is suitable. Or wet soaks with gauze pads may be used. Remember to avoid chemical cleansing agents which may interfere with the therapy.

With a sterile cotton swab or finger cot, apply a very **thin** layer of TRAVASE Ointment. The ointment spreads easily and only a small amount is needed (a small dab of ointment will cover an area as big as the back of a hand).

Be sure, though, to rub the ointment well into every crack or crevice of the wound and overlap the surrounding skin one-fourth to one-half inch beyond the area to be debrided—to be sure of complete coverage.

Apply loose, wet dressings, thoroughly soaked in sodium chloride solution or sterile water to the area to be debrided only.

Cover the moist dressings with an occlusive wrap (Saran wrap, Telfa Pads, or other plastic wrappings) to keep wound site moist. Do not extend occlusive wrap over ½ inch beyond area to be debrided.

When changing dressing, gently wipe away the dissolved material. Repeat the complete dressing procedure, including application of TRAVASE Ointment, four times daily.

The ulcer shown in these photos is simulated on a model in order to demonstrate the correct TRAVASE application technique.

To: FLINT LABORATORIES
Division of Travenol Laboratories, Inc.
200 Wilmot Road
Deerfield, Illinois 60015

Name _____

Title _____

Institution _____

Street _____

City _____ State _____ Zip _____

Please send:

_____ Additional Information on TRAVASE® Ointment (brand of Sutilains)

_____ In-service training program

_____ Comment _____

DESCRIPTION: TRAVASE® (brand of sutilains) Ointment is a sterile preparation of proteolytic enzymes, elaborated by **Bacillus subtilis**, in a hydrophobic ointment base consisting of 95% white petrolatum and 5% polyethylene. One gram of ointment contains approximately 82,000 casein units* of proteolytic activity.

ACTION: TRAVASE Ointment selectively digests necrotic soft tissues by proteolytic action. It dissolves and facilitates the removal of necrotic tissues and purulent exudates that otherwise impair formation of granulation tissue and delay wound healing (4).

At body temperatures these proteolytic enzymes have optimal activity in the pH range from 6.0 to 6.8.

INDICATIONS: For wound debridement (1,2)—TRAVASE Ointment is indicated as an adjunct to established methods of wound care for biochemical debridement of the following lesions:

Second and third degree burns,
Decubitus ulcers,
Incisional, traumatic, and pyogenic wounds,
Ulcers secondary to peripheral vascular disease.

CONTRAINDICATIONS: Application of TRAVASE (brand of sutilains) Ointment is contraindicated in the following conditions:

Wounds communicating with major body cavities,

Wounds containing exposed major nerves or nervous tissue,

Fungating neoplastic ulcers,

Wounds in women of child-bearing potential—because of lack of laboratory evidence of effects of TRAVASE upon the developing fetus

WARNING: Do not permit TRAVASE Ointment to come into contact with the eyes. In treatment of burns or lesions about the head or neck, should the ointment inadvertently come into contact with the eyes, the eyes shou be immediately rinsed with copious amounts of water, preferably sterile.

PRECAUTIONS: A moist environment is essential to optimal activity of the enzyme. Enzyme activity may also be impaired by certain agents. **In vitro**, several detergents and antiseptics (benzalkonium chloride, hexachlorophene, iodine, and nitrofurazone) may render the substrate indifferent to the action of the enzyme (3). Compounds such as thimerosal containing metallic ions interfere directly with enzyme activity to a slight degree, whereas neomycin, sulfamylon-streptomycin, and penicillin do not affect enzyme activity. In cases where adjunctive topical therapy has been used and no dissolution of slough occurs after treatment with TRAVASE Ointment for 24 to 48 hours, further application, because of interference by the adjunctive agents, is unlikely to be rewarding.

In cases where there is existent or threatening invasive infection, appropriate systemic antibiotic therapy should be instituted concurrently.

Although there have been no reports of systemic allergic reaction in humans, studies have shown that there may be an antibody response in humans to absorbed enzyme material.

ADVERSE REACTIONS: Adverse reactions consist of mild, transient pain, paresthesias, bleeding and transient dermatitis. Pain usually can be controlled by administration of mild analgesics. Side effects severe enough to warrant discontinuation of therapy occasionally have occurred.

If bleeding or dermatitis occurs as a result of the application of TRAVASE (brand of sutilains) Ointment, therapy should be discontinued. No systemi toxicity has been observed as a result of the topical application of TRAVASE Ointment.

Dosage and Administration

STRICT ADHERENCE TO THE FOLLOWING IS REQUIRED FOR EFFECTIV RESULTS OF TREATMENT

1. Thoroughly Cleanse and Irrigate Wound Area with sodium chlorid or water solutions. Wound **MUST** be cleansed of antiseptics or heavy-metal antibacterials which may denature enzyme or alter substrate characteristics (e.g., Hexachlorophene, Silver Nitrate, Benzalkonium Chloride, Nitrofurazone, etc.).
2. Thoroughly moisten wound area either through tubbing, showerin or wet soaks (e.g., sodium chloride or water solutions).
3. Apply TRAVASE Ointment in a thin layer assuring intimate conta with necrotic tissue and complete wound coverage extending to ¼ to ½ inch beyond the area to be debrided.
4. Apply loose wet dressings.
5. Repeat entire procedure 3 to 4 times per day for best results.

How Supplied

3P3002 TRAVASE Ointment is supplied sterile in one-half ounce tubes (14.2 g.) containing 82,000 casein units of sutilains per gram of hydrophobic ointment base.

The ointment must be stored under refrigeration at 2° to 10° C (35° to 50° F).

References

1. Garrett, T. A. **Bacillus subtilis** protease, a new agent for debridement. Clin. Med. **76:** 11-15, 1969.

2. Hesterberg, R. (Necrosis treatment on fermentative basis). Doctoral dissertation from the Chirurgical Clinic of the University of Munich. Dissertation Printing: Charlotte Schoen, Munich, 1964. (Ger.)

3. Howes, E. L. The healing of the burn may be hindered by its first aid therapy. 20th Cong. Soc. Inter. Chir., Rome, Italy, September 14-23, 1963.

4. Prytz, B., Connell, J. F., Jr., and Rousselot, L. M. **Bacillus subtilis** protease in the digestion of burn eschar. Clin. Pharmacol. Therap. **7:** 347-51, 1966.

*A casein unit is the amount of enzyme required to produce the same optical density at 275 mμ as that of a solution of 1.5 mcg. tyrosine/ml. after the enzyme has been incubated with 35 mg. of casein at 37° C. for one minute.

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Manuscripts should be typed double-spaced with ample margins on firm paper. Carbons are unacceptable, but the author should keep a copy.

The *title* should include the words most suitable for indexing the article in "Index Medicus," should stress the main point, and should be brief. Subtitles should not be connected grammatically with the main title.

The *author's names* and degrees should follow the title, and their mailing addresses should be listed at the end of the article.

The *text* should be narrative with complete sentences, *few abbreviations*, and logical subheading. For *spelling and usage* the editors follow "Dorland's Illustrated Medical Dictionary," 24th edition, and "Webster's Third New International Dictionary, Unabridged." *Quotations* must give credit to both author and source. A concise *introductory summary* is required.

Reference lists should contain in this order (1) author's last name, initials, (2) title of article or book, (3) name of journal, (4) volume and inclusive page numbers, written 33:156-160, (5) year. For books, the title should be followed by place of publication, name of publisher, and year.

Illustrations should be black and white drawings or positive photographs, with neat, uniform, fairly large lettering. A label pasted to the back of each illustration should indicate its number, top, author's name, and title of article in brief. *Legends* should be in complete sentences, numbered, and typed on a separate sheet. *Color illustrations* are authorized if they are of special value.

Tables should be typed on separate sheets. Column headings should show points of similarity; side headings, points of difference.

Permission should be obtained from the publishers and the authors for any previously published material (extensive textual matter, illustrations, tables) used. Short verbatim quotations in the text may be used without permission, but should be quoted exactly with the source credited in the bibliography. Copies of permission letters should be submitted with the manuscript.

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Editorials should be prepared in the same general manner, and should be written in clear, concise language. They should be 300-500 words in length (about two to three pages typed with double spacing.)

Contributions to the news section should be sent to the Editorial Offices, 1801 N. Lamar Blvd., Austin 78701, by the 5th of the month preceding the month of publication.

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Texas Medicine is published monthly by the Texas Medical Association.

Contributions, previously unpublished, are welcomed for review. News and other items should be sent to the Editorial Offices by the 5th of the month preceding the month of publication. All contributions are sent at the owner's risk.

Scientific Articles are reviewed by technical and specialist consultants and are selected for publication in Texas Medicine by the Scientific Publication Committee, which is appointed by the Board of Publication. Editorials and other articles are subject to review by officers of the Texas Medical Association, appropriate expert and technical consultants, and representatives of county medical societies when in their purview.

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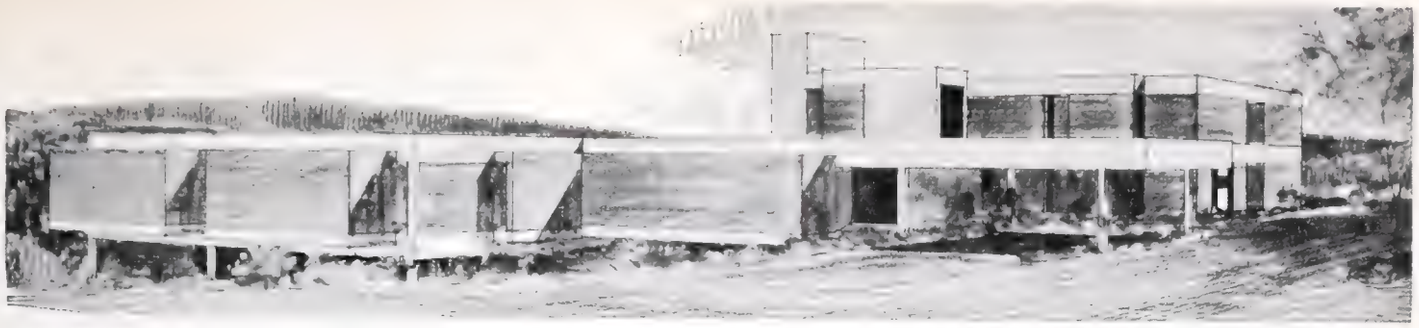

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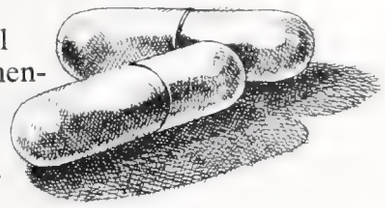

Patient-oriented dosage — up to 8 capsules daily in divided doses

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Before prescribing, please consult complete product information, a summary of which follows:

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Warnings: Caution patients about possible combined effects with alcohol and other CNS depressants. As with all CNS-acting drugs, caution patients against hazardous occupations requiring complete mental alertness (*e.g.*, operating machinery, driving). Though physical and psychological dependence have rarely been reported on recommended doses, use caution in administering Librium (chlordiazepoxide hydrochloride) to known addiction-prone individuals or those who might increase dosage; withdrawal symptoms (including convulsions), following discontinuation of the drug and similar to those seen with barbiturates, have been reported. Use of any drug in pregnancy, lactation, or in women of childbearing age requires that its potential benefits be weighed against its possible hazards. As with all anticholinergic drugs, an inhibiting effect on lactation may occur.

Precautions: In elderly and debilitated, limit dosage to smallest effective amount to preclude development of ataxia, oversedation or confusion (not more than two capsules per day initially; increase gradually as needed and tolerated). Though generally not recommended, if combination therapy with other psychotropics seems indicated, carefully consider individual pharmacologic effects, particularly in use of potentiating drugs such as MAO inhibitors and phenothiazines. Observe usual precautions in presence of impaired renal or hepatic function. Paradoxical reactions (*e.g.*, excitement, stimulation and acute rage) have been reported in psychiatric patients. Employ usual precautions in treatment of anxiety states with evidence of impending depression; suicidal tendencies may be present and protective measures necessary. Variable effects on blood coagulation have been reported very rarely in patients receiving the drug and oral anticoagulants; causal relationship has not been established clinically.

Adverse Reactions: No side effects or manifestations not seen with either compound alone have been reported with Librax. When chlordiazepoxide hydrochloride is used alone, drowsiness, ataxia and confusion may occur, especially in the elderly and debilitated. These are reversible in most instances by proper dosage adjustment, but are also occasionally observed at the lower dosage ranges. In a few instances syncope has been reported. Also encountered are isolated instances of skin eruptions, edema, minor menstrual irregularities, nausea and constipation, extrapyramidal symptoms, increased and decreased libido—all infrequent and generally controlled with dosage reduction; changes in EEG patterns (low-voltage fast activity) may appear during and after treatment; blood dyscrasias (including agranulocytosis), jaundice and hepatic dysfunction have been reported occasionally with chlordiazepoxide hydrochloride, making periodic blood counts and liver function tests advisable during protracted therapy. Adverse effects reported with Librax are typical of anticholinergic agents, *i.e.*, dryness of mouth, blurring of vision, urinary hesitancy and constipation. Constipation has occurred most often when Librax therapy is combined with other spasmolytics and/or low residue diets.

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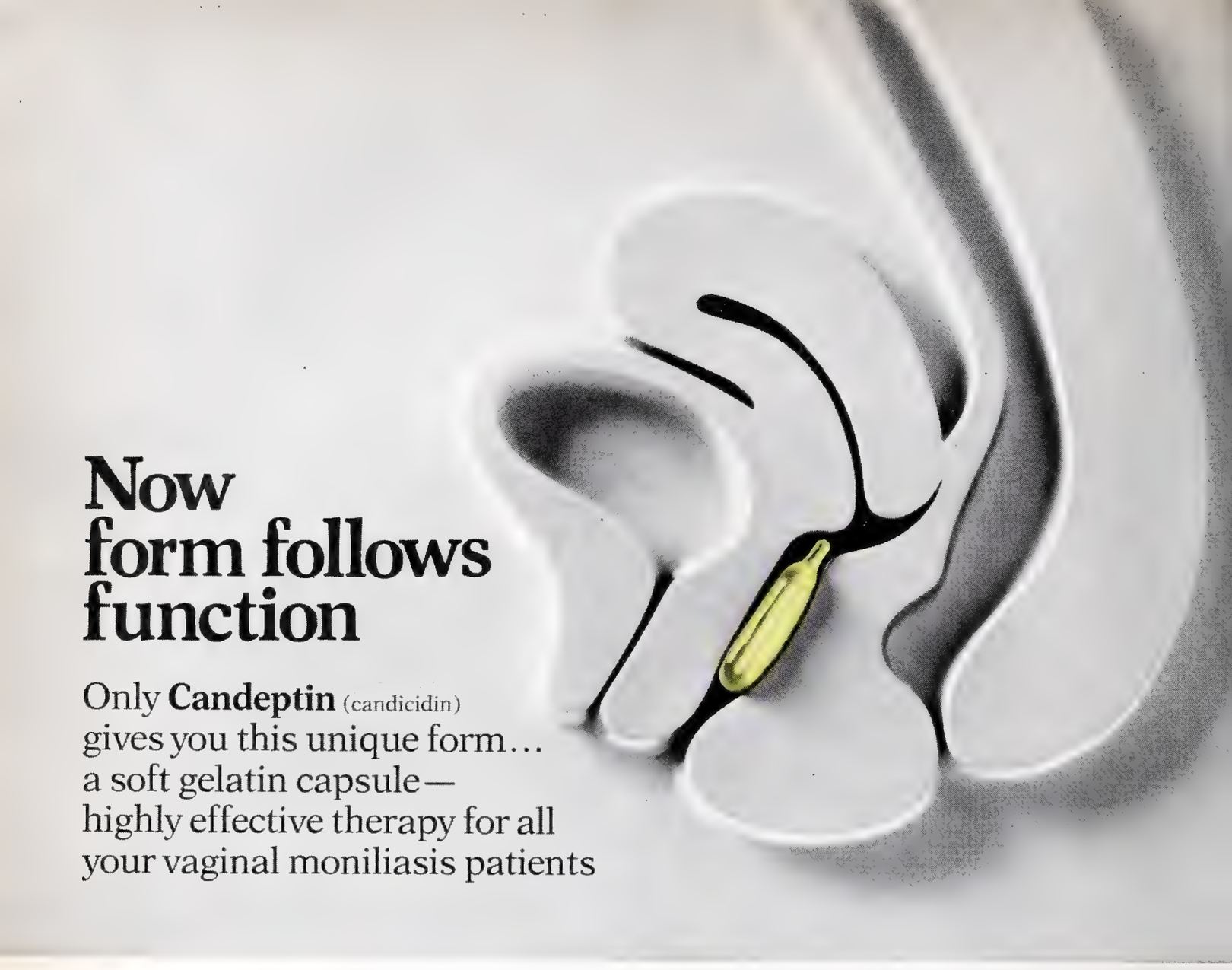

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CANDEPTIN (candicidin) is significantly more potent *in vitro* than nystatin.[5] CANDEPTIN Vaginal Ointment and Tablets have a clinical record of cure rates of 90% and more in pregnant and non-pregnant patients.[1,4,6] In recent studies on CANDEPTIN VAGELETTES Vaginal Capsules, involving both gravid and non-gravid patients, a 100% culture-confirmed cure rate was achieved with a single 14-day course of therapy.[2,3]

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Description: CANDEPTIN (candicidin) Vaginal Ointment contains a dispersion of candicidin powder equivalent to 0.6 mg. per gm. or 0.06% Candicidin activity in U.S.P. petrolatum. 3 mg. of Candicidin is contained in 5 gm. of ointment or one applicatorful. CANDEPTIN Vaginal Tablets contain Candicidin powder equivalent to 3 mg. (0.3%) Candicidin activity dispersed in starch, lactose and magnesium stearate. CANDEPTIN VAGELETTES Vaginal Capsules contain 3 mg. of Candicidin activity dispersed in 5 gm. U.S.P. petrolatum.
Action: CANDEPTIN Vaginal Ointment, Vaginal Tablets, and VAGELETTES Vaginal Capsules possess anti-monilial activity.
Indications: Vaginitis due to Candida albicans and other Candida species.
Contraindications: Contraindicated for patients known to be sensitive to any of its components. During pregnancy manual Tablet or VAGELETTES Capsule insertion may be preferred since the use of the ointment applicator or tablet inserter may be contraindicated.
Caution: During treatment it is recommended that the patient refrain from sexual intercourse or the husband wear a condom to avoid re-infection.
Adverse Reaction: Clinical reports of sensitization or temporary irritation with CANDEPTIN Vaginal Ointment, Vaginal Tablets or VAGELETTES Vaginal Capsules have been extremely rare.
Dosage: One vaginal applicatorful of CANDEPTIN Ointment or one Vaginal Tablet or one VAGELETTES Vaginal Capsule is inserted high in the vagina twice a day, in the morning and at bedtime, for 14 days. Treatment may be repeated if symptoms persist or reappear.
Available Dosage Forms: CANDEPTIN Vaginal Ointment is supplied in 75 gm. tubes with applicator (14-day regimen requires 2 tubes). CANDEPTIN Vaginal Tablets are packaged in boxes of 28, in foil with inserter—enough for a full course of treatment. CANDEPTIN VAGELETTES Vaginal Capsules are packaged in boxes of 14 (14-day regimen requires 2 boxes.)

Store under refrigeration to insure full potency.

Federal law prohibits dispensing without prescription.

References: **1.** Olsen, J.R.: Journal-Lancet *85*:287 (July) 1965. **2.** Giorlando, S.W.: Ob/Gyn Dig. *13*:32 (Sept.) 1971. **3.** Decker, A.: Case Reports on File, Medical Department, Julius Schmid. **4.** Giorlando, S.W., Torres, J.F., and Muscillo, G.: Am. J. Obst. & Gynec. *90*: 370 (Oct. 1) 1964. **5.** Lechevalier, H.: Antibiotics Annual 1959-1960. New York, Antibiotica Inc., 1960. pp. 614-618. **6.** Friedel, H.J.: Maryland M.J., *15*:36 (Feb.) 1966.

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COMING MEETINGS

27TH ANNUAL ROCKY MOUNTAIN CANCER CONFERENCE

The 27th Annual Rocky Mountain Cancer Conference, co-sponsored by American Cancer Society, Colorado Division, and Colorado Medical Society, will present "Cancer Screening: Programs, Progress, Problems" July 13-14, at the Brown Palace Hotel, Denver. Guest faculty for the conference includes Ronald Castellino, Stanford University; Dr. William M. Christopherson, University of Louisville School of Medicine; Dr. Victor A. Gilbertsen, University of Minnesota Medical Center; Dr. Arthur I. Holleb, American Cancer Society, Inc.; Dr. Loren J. Humphrey, University of Kansas Medical Center; and Dr. Geno Saccomanno, St. Mary's Hospital, Grand Junction, Colo. Featured as luncheon speaker on July 13 is Dr. Russell B. Roth, president, American Medical Association. For more information, contact: Rocky Mountain Cancer Conference, 1809 East 18th Ave., Denver 80218.

INTERNATIONAL COLLEGE OF SURGEONS, MIDSUMMER MEETING

Ottawa, Ont., will host the midsummer meeting of the International College of Surgeons July 2-6, at the Chateau Laurier. Breakfast panels, medical motion pictures, discussions and symposiums will be included in the five-day session. Topics scheduled during the program will be the management of renal calculi, aspects of endoscopy in surgery, the unusual in surgery, urological problems in surgery, surgery for coronary artery disease, ophthalmology symposium, otorhinolaryngology symposium, infection control in the operating room, recent advances in blood transfusion, international aspects of medical education, gynecological symposium, lymphomas, and carcinoma of the breast. Registration fee for doctors, $30; wives, $15. For additional information, contact: Dr. Eugene F. Balangero, 485 E. St. Joseph Blvd., Montreal.

CURRENT NATIONAL MEETINGS

THE 16TH ANNUAL RUIDOSO SUMMER CLINIC sponsored by the New Mexico Chapter of the American Academy of Family Physicians is scheduled for July 16-19 at the Chaparral Motel, Ruidoso, NM. The scientific program will be provided by the University of New Mexico School of Medicine. Contact: Bob Reid, PO Box 456, Sunland Park, NM 88063.

WYOMING STATE MEDICAL SOCIETY will hold its 70th Annual Meeting Aug. 28-31 at Jackson Lake Lodge, Moran, Wyo. Scientific sessions will include programs on thermography, sexual counseling for the family physician, antibiotic selection in the critically-ill patient, peptic ulcer disease and surgical management, and nutrition. Continuing medical education courses will be included in the program. Contact: Wyoming State Medical Society, PO Box 1387, Cheyenne, Wyo. 82001.

FLYING PHYSICIANS ASSOCIATION'S 19th Annual Meeting will be held July 22-27 at the Sheraton-Harbor Island Hotel, San Diego, Calif. The theme of the meeting will be "Medical Use of Private Aircraft," featuring discussions on medical aspects of air transportation of patients, samaritan work and flying in Baja, disaster work and private aircraft, and medical problems and flying. There will also be a special training seminar for instrument rated pilots conducted by Aviation Training Enterprises. For more information, contact: Albert Carriere, 801 Green Bay Rd., Lake Bluff, Ill. 60044, Business Counsel.

For other courses and symposiums, see Continuing Education Courses, pp. 37-38.

MORE COMING MEETINGS

■ Denotes Texas meetings.

JULY

SOUTHERN OB-GYN SEMINAR, Asheville, NC, July 22-27, 1973. Dr. George T. Schneider, 1514 Jefferson Hwy., New Orleans, La. 70121, Sec.

AUGUST

■ AMERICAN CANCER SOCIETY, TEXAS DIVISION, Dallas, Aug. 23-24, 1973. Curt W. Reimann, 5100 Ridge Oak, Austin 78731, Exec. V.-Pres.

SEPTEMBER

■ AMERICAN ACADEMY OF OPHTHALMOLOGY AND OTOLARYNGOLOGY, Dallas, Sept. 16-20, 1973. Dr. C. M. Kos, 15 Second St. SW, Rochester, Minn. 55901.

AMERICAN ASSOCIATION OF MEDICAL CLINICS, Los Angeles, Sept. 16-20, 1973. Dr. G. Stanley Custer, 630 S. Central Ave., Marshfield, Wisc. 54449, Acting Exec. Dir.

AMERICAN CANCER SOCIETY, Second National Conference on Cancer of the Colon and Rectum, Bal Harbour, Fla., Sept. 27-29, 1973. Dr. Sidney L. Arje, 219 E. 42nd St., New York 10017.

AMERICAN FRACTURE ASSOCIATION, Montreal, Sept. 5-9, 1973. Dr. H. W. Wellmerling, 600 Livingston Bldg., Bloomington, Ill. 62058, Exec. Officer.

AMERICAN MEDICAL ASSOCIATION, 33rd Annual AMA Congress on Occupational Health, Philadelphia, Sept. 17-18, 1973. AMA, 535 N. Dearborn St., Chicago, Ill. 60610.

AMERICAN ROENTGEN RAY SOCIETY, Montreal, Sept. 25-28, 1973. Dr. Ted F. Leigh, Emory University Clinic, Atlanta 30322, Exec. Sec.

■ AMERICAN SOCIETY OF INTERNAL MEDICINE, Dallas, Sept. 21-22, 1973. American Society of Internal Medicine, 525 The Hearst Bldg., Third at Market, San Francisco 94103.

■ BLACKFORD MEMORIAL LECTURES, Denison, Tex., Sept. 8, 1973. Dr. John D. Gleckler, 211 N. Fannin, Denison 75020, Com. Chrm.

INTERNATIONAL HEALTH EVALUATION ASSOCIATION, London, England, Sept. 11-14, 1973. Mrs. Norma M. Oldfield, 354 Tappan St., Brookline, Mass. 02146, Exec. Dir.

INTERNATIONAL MEDICAL CONGRESS, Fourth International Conference on Birth Defects, Vienna, Austria, Sept. 2-8, 1973. Richard C. Gedney, 1275 Mamaroneck Ave., White Plains, NY 10605, Exec. Sec.

■ PANHANDLE DISTRICT MEDICAL SOCIETY, Lubbock, Sept. 15, 1973. Carlie Umphres, PO Box 3276, Amarillo 79106, Exec. Officer.

■ TEXAS PEDIATRIC SOCIETY, Austin, Sept. 20-22, 1973. Dr. Pat A. Cato, 1015 E. 32nd St., Austin 78705.

OCTOBER

AMERICAN ACADEMY OF FAMILY PHYSICIANS, Denver, Oct. 1-4, 1973. Roger Tusken, Volker Blvd. at Brookside, Kansas City, Mo. 64112, Exec. Dir.

AMERICAN ACADEMY OF PHYSICAL MEDICINE AND REHABILITATION, Washington, DC, Oct. 21-26, 1973. Creston Herold, 30 N. Michigan Ave., Chicago 60602, Exec. Officer.

AMERICAN ASSOCIATION FOR LABORATORY ANIMAL SCIENCE, Bal Harbour, Fla., Oct. 1-5, 1973. Joseph J. Garvey, 2317 W. Jefferson, Suite 208, Joliet, Ill. 60435, Exec. Sec.

AMERICAN ASSOCIATION OF MEDICAL ASSISTANTS, Washington, DC, Oct. 23-27, 1973. Dene R. Murray, One E. Wacker, No. 1510, Chicago 60601, Exec. Dir.

AMERICAN BOARD OF FAMILY PRACTICE, Oct. 20-21, 1973. Dr. Nicholas J. Pisacano, University of Kentucky Medical Center, Annex No. 2, Rm. 229, Lexington 40506, Sec.

AMERICAN COLLEGE OF CHEST PHYSICIANS, Toronto, Ontario, Oct. 21-25, 1973. Dr. Alfred Soffer, 112 East Chestnut, Chicago 60611, Exec. Dir.

AMERICAN COLLEGE OF GASTROENTEROLOGY, Los Angeles, Oct. 21-27. Daniel Weiss, 299 Broadway, New York 10007, Exec. Sec.

AMERICAN COLLEGE OF SURGEONS, Chicago, Oct. 15-19, 1973. C. Rollins Hanlon, 55 E. Erie St., Chicago 60611, Dir.

AMERICAN CONGRESS OF REHABILITATION MEDICINE, Washington, DC, Oct. 21-26, 1973. Creston Herold, 30 N. Michigan Ave., Chicago 60602, Exec. Officer.

acute arthritic inflammation...heat that freezes

In acute rheumatoid arthritis consider Tandearil. The anti-inflammatory action of Tandearil quickly helps reduce heat, pain, swelling, and stiffness. Results are usually seen in 3 or 4 days. Try it for a week when the symptoms defy aspirin control.

Remember that Tandearil is not a simple analgesic. It should not be used on patients responding to routine therapy. Before using, please read the prescribing information. It's summarized below.

Tandearil® helps take the heat off

oxyphenbutazone NF

Geigy

Tablets of 100 mg.

Important Note: This drug is not a simple analgesic. Do not administer casually. Carefully evaluate patients before starting treatment and keep them under close supervision. Obtain a detailed history, and complete physical and laboratory examination (complete hemogram, urinalysis, etc.) before prescribing and at frequent intervals thereafter. Carefully select patients, avoiding those responsive to routine measures, contraindicated patients or those who cannot be observed frequently. Warn patients not to exceed recommended dosage. Short-term relief of severe symptoms with the smallest possible dosage is the goal of therapy. Dosage should be taken with meals or a full glass of milk. Patients should discontinue the drug and report immediately any sign of: fever, sore throat, oral lesions (symptoms of blood dyscrasia); dyspepsia, epigastric pain, symptoms of anemia, black or tarry stools or other evidence of intestinal ulceration or hemorrhage, skin reactions, significant weight gain or edema. A one-week trial period is adequate. Discontinue in the absence of a favorable response. Restrict treatment periods to one week in patients over sixty.

Indications: Acute gouty arthritis, rheumatoid arthritis, rheumatoid spondylitis.

Contraindications: Children 14 years or less; senile patients; history or symptoms of G.I. inflammation or ulceration including severe, recurrent or persistent dyspepsia; history or presence of drug allergy; blood dyscrasias; renal, hepatic or cardiac dysfunction; hypertension; thyroid disease; systemic edema; stomatitis and salivary gland enlargement due to the drug; polymyalgia rheumatica and temporal arteritis; patients receiving other potent chemotherapeutic agents, or long-term anticoagulant therapy.

Warnings: Age, weight, dosage, duration of therapy, existence of concomitant diseases, and concurrent potent chemotherapy affect incidence of toxic reactions. Carefully instruct and observe the individual patient, especially the aging (forty years and over) who have increased susceptibility to the toxicity of the drug. Use lowest effective dosage. Weigh initially unpredictable benefits against potential risk of severe, even fatal, reactions. The disease condition itself is unaltered by the drug. Use with caution in first trimester of pregnancy and in nursing mothers. Drug may appear in cord blood and breast milk. Serious, even fatal, blood dyscrasias, including aplastic anemia, may occur suddenly despite regular hemograms, and may become manifest days or weeks after cessation of drug. Any significant change in total white count, relative decrease in granulocytes, appearance of immature forms, or fall in hematocrit should signal immediate cessation of therapy and complete hematologic investigation. Unexplained bleeding involving CNS, adrenals, and G.I. tract has occurred. The drug may potentiate action of insulin, sulfonylurea, and sulfonamide-type agents. Carefully observe patients taking these agents. Nontoxic and toxic goiters and myxedema have been reported (the drug reduces iodine uptake by the thyroid). Blurred vision can be a significant toxic symptom worthy of a complete ophthalmological examination. Swelling of ankles or face in patients under sixty may be prevented by reducing dosage. If edema occurs in patients over sixty, discontinue drug.

Precautions: The following should be accomplished at regular intervals: Careful detailed history for disease being treated and detection of earliest signs of adverse reactions; complete physical examination including check of patient's weight; complete weekly (especially for the aging) or an every two week blood check; pertinent laboratory studies. Caution patients about participating in activity requiring alertness and coordination, as driving a car, etc. Cases of leukemia have been reported in patients with a history of short- and long-term therapy. The majority of these patients were over forty. Remember that arthritic-type pains can be the presenting symptom of leukemia.

Adverse Reactions: This is a potent drug; its misuse can lead to serious results. Review detailed information before beginning therapy. Ulcerative esophagitis, acute and reactivated gastric and duodenal ulcer with perforation and hemorrhage, ulceration and perforation of large bowel, occult G.I. bleeding with anemia, gastritis, epigastric pain, hematemesis, dyspepsia, nausea, vomiting and diarrhea, abdominal distention, agranulocytosis, aplastic anemia, hemolytic anemia, anemia due to blood loss including occult G.I. bleeding, thrombocytopenia, pancytopenia, leukemia, leukopenia, bone marrow depression, sodium and chloride retention, water retention and edema, plasma dilution, respiratory alkalosis, metabolic acidosis, fatal and nonfatal hepatitis (cholestasis may or may not be prominent), petechiae, purpura without thrombocytopenia, toxic pruritus, erythema nodosum, erythema multiforme, Stevens-Johnson syndrome, Lyell's syndrome (toxic necrotizing epidermolysis), exfoliative dermatitis, serum sickness, hypersensitivity angiitis (polyarteritis), anaphylactic shock, urticaria, arthralgia, fever, rashes (all allergic reactions require prompt and permanent withdrawal of the drug), proteinuria, hematuria, oliguria, anuria, renal failure with azotemia, glomerulonephritis, acute tubular necrosis, nephrotic syndrome, bilateral renal cortical necrosis, renal stones, ureteral obstruction with uric acid crystals due to uricosuric action of drug, impaired renal function, cardiac decompensation, hypertension, pericarditis, diffuse interstitial myocarditis with muscle necrosis, perivascular granulomata, aggravation of temporal arteritis in patients with polymyalgia rheumatica, optic neuritis, blurred vision, retinal hemorrhage, toxic amblyopia, retinal detachment, hearing loss, hyperglycemia, thyroid hyperplasia, toxic goiter, association of hyperthyroidism and hypothyroidism (causal relationship not established), agitation, confusional states, lethargy; CNS reactions associated with overdosage, including convulsions, euphoria, psychosis, depression, headaches, hallucinations, giddiness, vertigo, coma, hyperventilation, insomnia; ulcerative stomatitis, salivary gland enlargement.

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For complete details, including dosage, please see full prescribing information.

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Opinion & Dialogue

"Prescription drugs – who should determine the maker?"

Dispenser of Medicine

Clifton J. Latiolais
President
American Pharmaceutical Association

Maker of Medicine

C. Joseph Stetler
President
Pharmaceutical Manufacturers Association

"Too many doctors are indifferent to the economic consequences of their decisions." So stated a recent issue of *Medical News Report* (December 4, 1972), an independent weekly newsletter published by former AMA Chief Executive F. J. L. Blasingame, M.D.

Doctor, are you indifferent...?

In discussing an anticipated increase in Blue Shield rates, Dr. Blasingame's newsletter had this to say:

"In general, it can be said, MD's have given the impression they are not particularly concerned with the increase in cost of health care to their patients...

"True, an MD's training is primarily scientific, but in the real world of practice, all of his scientific decisions have a price tag, or an economic impact. The economics of health care beckon the practitioner's attention. Concern for economics of medicine

When the pharmacist recommends that a drug product other than the one ordered be dispensed, the prescriber invariably permits the change when he feels the best interests of the patient will be served.

Shortcomings of Pro-Substitution Argument

The fact remains that it is necessary for the prescriber to know that the change is being contemplated, and to be in a position to consent or demur. Without that opportunity, the unilateral decision of the pharmacist, made in the absence of clinical knowledge of the patient, could expose him to needless risks, and in addition, jeopardize the relationship between the professions of Pharmacy and Medicine. In my view, there is nothing in the pro-substitution argument that offsets these risks.

The Issue of Drug Knowledge

Substitution advocates claim that the primary justification for changing the rules is the desire to better utilize pharmacists' knowledge about drugs. Yet the pharmacist's task to keep current on the entire field of drug therapy, to some degree, puts him at a disadvantage. Most often, a practicing physician will need expert knowledge of no more than 25

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should be an obligation of medical practice...

"Medical societies ought to conduct continuing campaigns to point out the substantial savings that could be realized thru deductible insurance and protection for catastrophic illness. At the very least, they should, in the patients' interest, question the tactics of any insurance organization that raises health care costs by forcing policyholders to buy insurance they may not need or want and probably won't ever use.

"Too many doctors are indifferent to the economic consequences of their decisions. Too many, for example, habitually hospitalize patients for the convenience of the MD. It's nonsense to deny such habits exist...

"Doctors, thru their medical societies, have unhesitatingly appealed to their patients for support in the fight against government interference with the private practice of medicine. And the public in the past has responded. It's time the American Medical Association and state and local medical societies paid off the debt by decisive action to hold down the cost of medical care."

Cost of Drugs

Insurance rates and hospital charges are only two factors in health care costs. The cost of drugs—both prescription and nonprescription—is another.

And when it comes to drug costs, the nation's pharmacists *are concerned.* Through their national professional society, the American Pharmaceutical Association, pharmacists are advising the public to use nonprescription medication cautiously and conservatively, and to seek the advice of their pharmacist before selecting or purchasing such drugs.

Outdated Laws

The pharmacist also is aware that when it comes to prescription drugs, often he has an even greater opportunity to reduce the cost to the patient—with no sacrifice in the quality of the medication dispensed. But in many states, outdated and antiquated laws prevent the pharmacist from engaging in drug product selection. "Drug product selection" simply means that the pharmacist functions in the patient's interest by consciously choosing, from the multiple brands available, a low-cost quality brand of the specific drug to be dispensed in response to the physician's prescription order.

Much *misinformation* has been purposely spread by those who stand to gain financially by maintaining high drug costs to the public. An endless stream of propaganda has emanated from the drug industry in an effort to persuade the medical profession that these so-called anti-substitution laws should be retained. And as long as these laws are retained, the drug industry will continue its current marketing practices which contribute unnecessarily to high drug costs to patients. These practices also are inviting government agencies to expand their restrictive controls on physicians and pharmacists.

APhA Efforts

As pharmacists, we are concerned about health care costs. We hope that every physician shares our concern on this vital issue, and will give his personal support to the constructive efforts APhA has undertaken in the interest of all patients.

(For a complete discussion of drug product selection, you are invited to request a free copy of the "White Paper on the Pharmacist's Role in Product Selection" from: American Pharmaceutical Association, 2215 Constitution Avenue, N.W., Washington, D.C. 20037.)

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or 30 drugs that he selects to treat the majority of conditions encountered in his practice. Moreover, the physician's choice of a specific brand is based on his knowledge of the patient's medical history and current condition, and his experiences with the particular manufacturer's product.

Some substitution proponents have argued that the dispensing of a prescription is a simple two-party transaction between the pharmacist and the patient, and that a substituting pharmacist may avoid even a technical breach of contract by simply notifying the patient that he is making the substitution. I would judge that few courts would be sympathetic toward a pharmacist who substituted without physician approval and who undertook a legal defense that seeks to make the patient responsible for the pharmacist's actions.

Reduced Prescription Prices?

Substitution advocates are suggesting to the consumer, and particularly the consumer activist, that reduced prescription prices could follow legalization of substitution. We have seen absolutely no evidence to justify this claim. To the contrary, experience in Alberta, Canada, where substitution is authorized, suggests the opposite.

Many pharmacists understandably are concerned about the cost of maintaining multiple stocks of similar products. While there is no doubt that inventory costs rise when additional brands are stocked, it would be interesting to know how much they rise, and how many pharmacists actually stock *all* brands—of, say, ampicillin or tetracycline—or how long they keep "slow moving" products on their shelves before they are returned for credit. To ask that the industry eliminate multiple sources is to ask competitors to stop competing.

Drug Substitution—A License for the Unethical

Anti-substitution repeal would favor "corner cutting" pharmacists and manufacturers. For them, free substitution would be not a right, but a license. As an aftermath, it is quite likely that the confidence of both physicians and patients in the profession of Pharmacy would be eroded, as revelations about the unconscionable behavior of an undisciplined few were magnified in the press or in professional circles.

Summary

In short, what the American Pharmaceutical Association advocates as a broad-spectrum panacea looks to us to be not only a minority view (advocacy of substitution is by no means a uniform policy in Pharmacy), but also an extraordinarily costly and ineffective remedy, whose side effects are odious. We believe (1) that an impressive majority of pharmacists prefer to work with Medicine and with industry, for the consumer, and for the general good, (2) that they seek the privilege to substitute when the patient might gain and when the patient's doctor agrees, and (3) that they seek to work for the resolution of genuine grievances openly and professionally.

(For amplification of PMA views, please write for our booklet, "The Medications Physicians Prescribe: Who Shall Determine the Source?" It is available from: Pharmaceutical Manufacturers Association, 1155 Fifteenth Street, N.W., Washington, D.C. 20005.)

Pharmaceutical Manufacturers Association
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Placidyl®
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Brief Summary

Indications—Placidyl (ethchlorvynol) is indicated as short-term hypnotic therapy in the management of insomnia.

Contraindications—Drug hypersensitivity and porphyria.

Warnings—Not recommended during the first and second trimester of pregnancy. Caution patients of possible combined exaggerated effects with alcohol, barbiturates, tranquilizers or other CNS depressants. Exaggerated effects might result in blurring of vision, paralysis of accommodation and profound hypnosis. Caution patients concerning driving a motor vehicle, operating machinery, or other hazardous operations requiring alertness after taking the drug. ADMINISTER WITH CAUTION TO PATIENTS WITH SUICIDAL TENDENCIES AND DO NOT PRESCRIBE LARGE QUANTITIES OF THE DRUG. Adjustment of the dosage of oral anticoagulants might be necessary when beginning ethchlorvynol therapy, during therapy, or after stopping therapy. This drug is not recommended for use in children. PLACIDYL HAS THE POTENTIAL FOR THE DEVELOPMENT OF PSYCHOLOGICAL AND PHYSICAL DEPENDENCE. INSTANCES OF SEVERE WITHDRAWAL SYMPTOMS, INCLUDING CONVULSIONS AND DELIRIUM CLINICALLY SIMILAR TO THOSE SEEN WITH BARBITURATES, HAVE BEEN REPORTED IN PATIENTS TAKING REGULAR DOSES AS LOW AS 1000 MG. PER DAY OVER A PERIOD OF TIME WHEN THE DRUG WAS SUDDENLY DISCONTINUED. PROLONGED ADMINISTRATION OF THE DRUG IS NOT RECOMMENDED. Addiction-prone patients or those who are likely to increase dosages of the drug on their own initiative should be observed for evidence of signs or symptoms which may indicate possible early withdrawal or abstinence symptoms. Signs and symptoms associated with withdrawal and abstinence include unusual anxiety, tremor, ataxia, slurring of speech, memory loss, perceptual distortions, irritability, agitation and delirium. Other less well defined signs and symptoms, not necessarily due to withdrawal and abstinence, may include anorexia, nausea or vomiting, weakness, dizziness, sweating, muscle twitching and weight loss. Abrupt discontinuance of Placidyl following prolonged overdosage may result in convulsions and delirium.

Precautions—Toxic amblyopia has been reported with long-term continuous use of ethchlorvynol. Permanent visual defects have been observed, although amblyopia has improved after discontinuation of the drug. Drug dosage should be limited for elderly and debilitated patients to the smallest effective amount. If pain is present, this drug should only be given if insomnia persists after pain is controlled with analgesics. Caution is advised in prescribing the drug for patients who are being treated with either MAO inhibitors or antidepressants. Transient delirium has been reported with the combination of Placidyl and amitryptyline. Drug dosage should be reduced if prescribed for patients receiving MAO inhibitors or antidepressants. Caution should be exercised in patients with impaired hepatic or renal function. Patients who respond unpredictably to barbiturates or alcohol, or who exhibit excitement and release of inhibition in association with such agents, may also react in this way to Placidyl. Rarely, patients may exhibit symptoms suggestive of an unusual susceptibility to the drug; such as prolonged hypnosis, profound muscular weakness, excitement, hysteria, or syncope without marked hypotension. Transient giddiness or ataxia may occur.

Adverse Reactions—Hypotension, nausea or vomiting, gastric upset, aftertaste, blurring of vision, dizziness, facial numbness, and allergic reaction typified by urticaria have been reported following Placidyl administration. Mild "hangover" and symptoms of mild excitation have occurred in some patients. There have been rare reports of cholestatic jaundice occurring in patients taking ethchlorvynol. A few cases of thrombocytopenia have been reported in patients receiving ethchlorvynol. 306433

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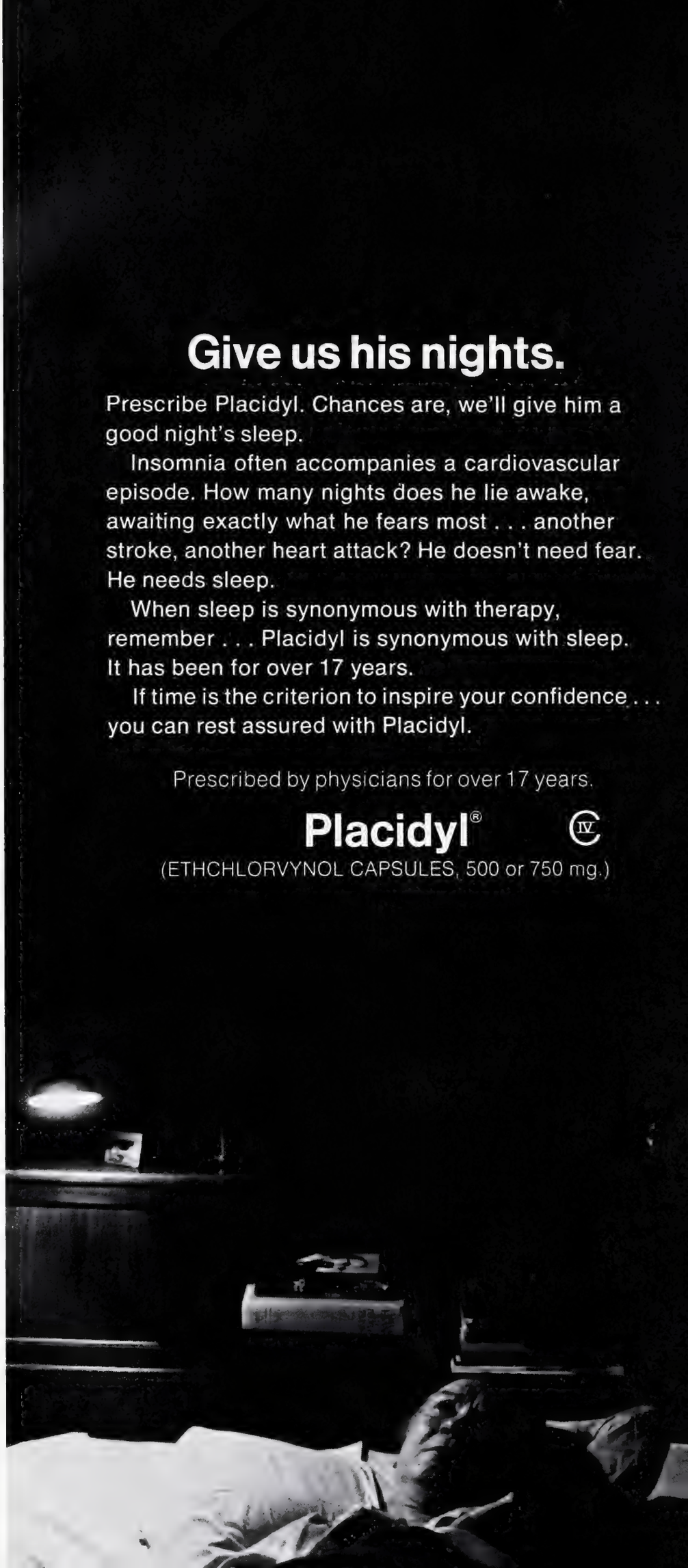

AMERICAN DIETETIC ASSOCIATION, Denver, Oct. 22-26, 1973. Lorraine Thomas, 620 N. Michigan Ave., Chicago 60611.

AMERICAN HUMANE ASSOCIATION, Charleston, S.C., Oct. 21-25, 1973. H. M. Thorp, PO Box 1266, Denver 80201, Conv. Coord.

AMERICAN MEDICAL ASSOCIATION, 14th National Conference on Physicians and Schools, Chicago, Oct. 4-6, 1973. AMA, 535 N. Dearborn St., Chicago 60610.

AMERICAN SOCIETY OF ANESTHESIOLOGISTS, San Francisco, Oct. 7-11, 1973. John W. Andes, 515 Busse Highway, Park Ridge, Ill. 60068, Exec. Sec.

AMERICAN SOCIETY OF PLASTIC AND RECONSTRUCTIVE SURGEONS, Hollywood, Fla., Oct. 21-26, 1973. Dallas F. Whaley, 29 E. Madison, Suite 807, Chicago 60602, Exec. Dir.

ASSOCIATION OF LIFE INSURANCE MEDICAL DIRECTORS OF AMERICA, New York City, Oct. 14-17, 1973. Dr. Arthur E. Brown, 501 Boylston St., Boston 02117, Sec.

CIVIL AVIATION MEDICAL ASSOCIATION, Mexico, Oct. 22-25, 1973. Dr. Luis A. Amezcuag, Ave. Progreso No. 186-101, Mexico 18, DF, Mex., Chrmn.

SOUTHERN PSYCHIATRIC ASSOCIATION, Miami, Oct. 6-9, 1973. Annette S. Boutwell, PO Box 10387, Raleigh, NC 27605, Exec. Sec.

■ **TEXAS MEDICAL ASSOCIATION, Austin, Oct. 5-7, 1973. C. Lincoln Williston, 1801 N. Lamar Blvd., Austin 78701, Exec. Sec.**

■ UNIVERSITY OF TEXAS M.D. ANDERSON HOSPITAL AND TUMOR INSTITUTE and The University of Texas Medical Branch at Galveston, Legacies of Railroad Medicine to American Health Care, Houston, Oct. 27-28, 1973. Dr. Robert C. Hickey, The University of Texas M.D. Anderson Hospital and Tumor Institute, Texas Medical Center, Houston 77025, Exec. V.P.

WORLD CONFERENCE ON THE HUMAN ENVIRONMENT, Yugoslavia, Oct. 23-26, 1973. Dr. Gerald D. Dorman, 10 Columbus Circle, New York 10019.

WORLD MEDICAL ASSOCIATION, Munich, Germany, Oct. 14-20, 1973. M. L. Natwick, 10 Columbus Circle, New York 10019, Exec. Sec.

NOVEMBER

AMERICAN ASSOCIATION OF BLOOD BANKS, Bal Harbour, Fla., Nov. 11-16, 1973. Lois J. James, 30 N. Michigan Ave., Chicago 60602, Cen. Office Mgr.

AMERICAN HEART ASSOCIATION, Atlantic City, N.J., Nov. 8-13, 1973. William Moore, 44 E. 23rd St., New York 10010, Exec. Dir.

AMERICAN MEDICAL WOMEN'S ASSOCIATION, Palm Beach, Fla., Nov. 7-10, 1973. Gertrude Conroy, 1740 Broadway, New York 10019, Exec. Sec.

ASSOCIATION OF AMERICAN MEDICAL COLLEGES, Washington, DC, Nov. 4-8, 1973. Dr. Charles C. Sprague, 1 Dupont Circle, NW, Washington, DC 20036, Chrmn.

■ AMERICAN ASSOCIATION FOR CLINICAL IMMUNOLOGY AND ALLERGY, San Antonio, Nov. 29-Dec. 2, 1973. Dr. Robert J. Brennan, 3471 N. Federal Hwy., Ft. Lauderdale, Fla. 33306, Prog. Chrmn.

INTERNATIONAL CONGRESS OF GYNECOLOGICAL LAPAROSCOPY, New Orleans, Nov. 17-20, 1973. Dr. Jordan M. Phillips, 11239 S. Lakewood Blvd., Downey, Calif. 90241.

■ SOUTHERN MEDICAL ASSOCIATION, San Antonio, Nov. 11-14, 1973. Robert F. Butts, 2601 Highland Ave., Birmingham, Ala., Exec. Dir.

■ TEXAS ACADEMY OF FAMILY PHYSICIANS, San Antonio, Nov. 5-7, 1973. Donald C. Jackson, 1905 N. Lamar Blvd., Austin 78705, Exec. Officer.

■ TEXAS DERMATOLOGICAL SOCIETY, San Antonio, Nov. 12-15, 1973. Dr. Eugene P. Schoch, Jr., 3A Medical Arts Sq., Austin 78705, Sec.

DECEMBER

AMERICAN CANCER SOCIETY, INC., National Conference on Virology and Imunology in Human Cancer, New York City, Nov. 29-Dec. 1, 1973. Dr. Sidney L. Arje, American Cancer Society, Inc., 219 E. 42nd St., New York 10017.

AMERICAN MEDICAL ASSOCIATION, clinical convention, Anaheim, Calif., Dec. 1-5, 1973. AMA, 535 N. Dearborn St., Chicago 60610.

■ TEXAS ACADEMY OF INTERNAL MEDICINE, Houston, Dec. 6, 1973. Dr. Tom W. Duke, PO Box 3460, Amarillo 79106, Sec.

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Indications. Proloid (thyroglobulin) is thyroid replacement therapy for conditions of inadequate endogenous thyroid production: e.g., cretinism and myxedema. Replacement therapy will be effective only in manifestations of hypothyroidism.

In simple (nontoxic) goiter, Proloid (thyroglobulin) may be tried therapeutically, in nonemergency situations, in an attempt to reduce the size of such goiters.

Contraindication. Thyroid preparations are contraindicated in the presence of uncorrected adrenal insufficiency.

Warnings. Thyroglobulin should not be used in the presence of cardiovascular disease unless thyroid-replacement therapy is clearly indicated. If the latter exists, low doses should be instituted beginning at 0.5 to 1.0 grain (32 to 64 mg) and increased by the same amount in increments at two-week intervals. This demands careful clinical judgment.

Morphologic hypogonadism and nephroses should be ruled out before the drug is administered. If hypopituitarism is present, the adrenal deficiency must be corrected prior to starting the drug.

Myxedematous patients are very sensitive to thyroid and dosage should be started at a very low level and increased gradually.

Precaution. As with all thyroid preparations this drug will alter results of thyroid function tests.

Adverse Reactions. Overdosage or too rapid increase in dosage may result in signs and symptoms of hyperthyroidism, such as menstrual irregularities, nervousness, cardiac arrhythmias, and angina pectoris.

Dosage and Administration. Optimal dosage is usually determined by the patient's clinical response. Confirmatory tests include BMR, T_3 ^{131}I resin sponge uptake, T_3 ^{131}I red cell uptake, Thyro Binding Index (TBI), and Achilles Tendon Reflex Test. Clinical experience has shown that a normal PBI (3.5-8 mcg/100 ml) will be obtained in patients made clinically euthyroid when the content of T_4 and T_3 is adequate. Dosage should be started in small amounts and increased gradually with increments at intervals of one to two weeks. Usual maintenance dose is 0.5 to 3.0 grains (32 to 190 mg) daily.

Overdosage Symptoms. Headache, instability, nervousness, sweating, tachycardia, with unusual bowel motility. Angina pectoris or congestive heart failure may be induced or aggravated. Shock may develop. Massive overdosage may result in symptoms resembling thyroid storm. Chronic excessive dosage will produce the signs and symptoms of hyperthyroidism.

(Treatment: In shock, supportive measures should be utilized. Treatment of unrecognized adrenal insufficiency should be considered.)

How Supplied. ¼ grain; ½ grain; scored 1 grain; 1½ grain; scored 2 grain; 3 grain; and scored 5 grain tablets, in bottles of 100 and 1000.

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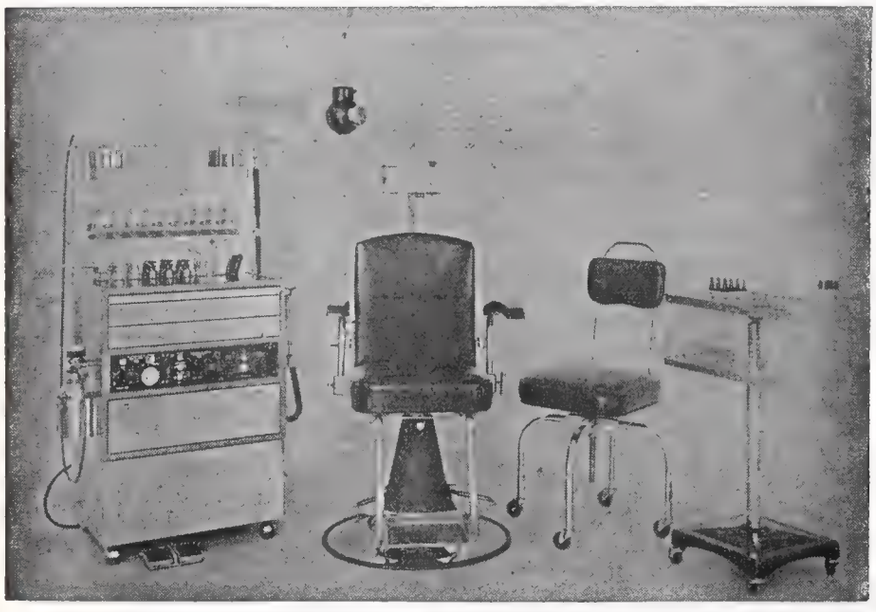

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CONTINUING EDUCATION COURSES

Fifteenth Summer Session of Statistics in the Health Sciences: Sponsored by the UT School of Public Health at Houston, June 21-Aug. 3. Contact: Summer Session of Statistics, The University of Texas School of Public Health, PO Box 20186, Astrodome Station, Houston 77025.

Biliary Tract Disease: A postgraduate course on biliary tract disease will be sponsored by American Gastroenterological Association July 26-28, Aspen, Colo. The program will include lectures and discussions on bile secretion, cholestasis, cholelithiasis, gallbladder disease, and diseases of the bile ducts. The course is designed primarily for physicians in general practice, internal medicine, surgery, and pediatrics with a strong interest in liver disease and gastroenterology. It is accredited for 12 hours by the AAFP. Contact: Charles B. Slack, 6900 Grove Rd., Thorofare, NJ 08086, Exec. Sec.

Fetal Monitoring: Louisiana State University Medical Center will sponsor a one-day symposium on fetal monitoring July 14 at LSU Medical School Auditorium, New Orleans. Contact: Dr. Abe Mickal, Department of Obstetrics and Gynecology, LSU Medical Center, 1542 Tulane Ave., New Orleans 70112.

Internal Medicine: The University of Colorado School of Medicine will sponsor its 9th Annual Course in Internal Medicine July 16-20, at the YMCA Conference Center, Estes Park, Colo. The course is designed to keep the physician in practice abreast of significant new developments in the field of internal medicine. Separate days are devoted to endocrinology, hematology, infectious disease, pulmonary disease, and renal disease. Tuition is $125 which includes a non-refundable administrative charge of $15, and the course is acceptable for 33 prescribed credit hours by the AAFP and the AMA Physician's Recognition Award. Contact: Office of Continuing Medical Education, University of Colorado School of Medicine, 4200 E. Ninth Ave., Denver, 80220.

Obstetrics-Gynecology: The 19th Annual Southern OB-Gyn Seminar will be held in Asheville, NC, at the Grove Park Inn, July 22-27. Broad aspects and subjects in obstetrics and gynecology will be presented and program participation will include the medical schools of North Carolina, Duke, Bowman Gray, and the Medical College of Virginia. Contact: Dr. George T. Schneider, 1516 Jefferson Hwy., New Orleans 70121, Sec.

Pediatrics: The 16th Annual Course in Pediatrics sponsored by the University of Colorado School of Medicine will be held July 29-Aug 1 at The Given Institute of Pathobiology, Aspen, Colo. Guest speakers will be Dr. Robert E. Cooke, Johns Hopkins University, Baltimore, Md.; and Dr. Moses Grossman, University of California, San Francisco. The course is approved for 20 hours credit by the AAFP and the AMA Physician's Recognition Award. Tuition fee is $100 which includes a non-refundable administrative charge of $15. All persons who attend must register in advance. Contact: Office of Continuing Medical Education, University of Colorado School of Medicine, 4200 E. Ninth Ave., Denver 80220.

Thyroid Disease: "Current Concepts in Thyroid Disease," a one-day symposium sponsored by the US Air Force Academy, will be held July 14 at the Broadmoor Hotel, Colorado Springs. Guest speakers and their subjects include Dr. L. J. DeGroot, University of Chicago, "Newer Concepts in Thyroid Physiology"; Dr. C. S. Hollander, New York University, "In Vitro Evaluation of Thyroid Function"; Dr. Christopher Roach, Fitzsimons Army Medical Center, "Evaluation of the ETR Procedure in the OB-GYN Patient"; Dr. N. D. Charkes, Temple University, "Hyperthyroidism Induced by Exogenous Iodine Administration," and "Newer Concepts in the Management of Thyroid Nodules"; Dr. T. A. Verdon, Fitzsimons Army Medical Center, "The Spectrum of T3 Toxicosis"; and Dr. A. S. Hale, U.S. Air Force Academy Hospital, "Alternatives to I-131 in Radionuclide Studies of the Thyroid." No registration fee is required. Contact: Dr. Frederick R. Gydesen, Director of Nuclear Medicine, Penrose Hospital, 2215 North Cascade Avenue, Colorado Springs 80907.

Trauma: Sponsored by American College of Surgeons, this trauma seminar will be held at the University of Vermont, Burlington, July 9-13. Though aimed at the non-specialist general practitioner and emergency department physician, the seminar will be advantageous to surgical specialists and internists. Curriculum will cover assessment of the critically injured and causes of death soon after injury—airway and respiratory problems, hemorrhagic shock, and brain damage; life-threatening injuries to the head, chest, abdomen and extremities; and later life-threatening complications, including pulmonary insufficiency from non-thoracic trauma, impaired kidney function complicating patient management and complications following blood transfusions. Hyperalimentation and intensive care of the trauma patient also will be covered. Contact: Dr. John H. Davis, Department of Surgery, University of Vermont, Burlington 05401, Dir.

AUGUST

Dermatology: The 5th Aspen Conference on Dermatology, co-sponsored by the Rocky Mountain Dermatological Society and the University of Colorado School of Medicine will be presented at the Given Institute of Pathobiology in Aspen, Colo., Aug. 2-4. Featured on the program will be discussions on surgical techniques for dermatologists; dermatologic radiotherapy; practical aspects of corticosteroid therapy and immunosuppressive agents; systemic therapy in dermatology, including antibiotic

MORE CONTINUING EDUCATION COURSES

therapy, drug interactions, methotrexate therapy, and medical use of drugs in non-approved situations; basic concepts in immunology; newer developments in the cellular and molecular aspects of cancer; recent advances in immuno-dermatology; and immunological reaction patterns of the skin. Tuition fee: $90. Contact: Office of Continuing Medical Education, University of Colorado School of Medicine, 4200 East Ninth Ave., Denver 80220.

SEPTEMBER

Cancer: The "1st Invitational Symposium on the Sero-Diagnosis of Cancer," co-sponsored by the Laboratory Service, Naval Hospital, Bethesda; the College of American Pathologists; the American Society of Clinical Pathologists; and the Armed Forces Radiobiology Research Institute; will be held Sept. 29 in the Naval Hospital Auditorium, National Naval Medical Center, Bethesda, Md. Registration fee: $40. Contact: Symposium, College of American Pathologists, 1775 K St. N.W., Washington, DC 20006.

Orthopedics: "What's New in Orthopaedics: Part I," co-sponsored by the American Academy of Orthopaedic Surgeons and The University of Texas Medical School at San Antonio, will be presented Sept. 5-7 at the Convention Center, San Antonio. The purpose of the course is to stimulate the practicing orthopedist to attend a postgraduate program which will bring him up to date in approximately 15 different areas of orthopedics. Registration fee for physicians: $150; residents: $50; occupational and physical therapists: $50. Contact: Dr. Charles A. Rockwood, Jr., 7703 Floyd Curl Dr., San Antonio 78284.

Surgery: The G. V. Brindley Lecture in Surgery will be presented Sept. 4 at Scott & White Hospital, Temple, Tex. Guest speaker is Dr. Charles Gregory. Contact: Department of Education, Scott & White Hospital, Temple 76501.

Office Practice of Gynecology: Sponsored by South Plains Chapter, Texas Academy of Family Physicians and Texas Tech University School of Medicine, Sept. 15, Lubbock. Contact: Walter R. Gault, Texas Tech University School of Medicine, PO Box 4569, Lubbock 79409.

Workshop in Soft Tissue Surgery: Sponsored by UT Otolaryngology Training Programs, Sept. 21-23, Dallas. Fee: $100. Contact: Dr. Jack P. Gunter, Chairman, Division of Otolaryngology, UT Health Science Center at Dallas, 8210 Walnut Hill Lane, #314, Dallas 75231.

OCTOBER

Dermatology: The University of Texas Medical School at San Antonio will sponsor a two-day program, "Dermatology for the Family Physician," Oct. 27-28, in San Antonio. Credit: 8 hours, AAFP and Category 1, Physician's Recognition Award. Fee: $50. Contact: Dr. Darl E. Vander Ploeg, Department of Medicine, 7703 Floyd Curl Dr., San Antonio 78284.

Human Genetics: "Human Genetics for the Family Physician and the Pediatrician," sponsored by The University of Texas Medical School at San Antonio, will be presented Oct. 12-13, to review the principles of human inheritance and the current state of the most exciting "frontier" in clinical practice. Accreditation: 10 hours by the AAFP and Category 1, AMA Physician's Recognition Award. Fee: $50. Contact: Dr. George W. Frimpter, Department of Medicine, 7703 Floyd Curl Dr., San Antonio 78284.

Medical Intensive Care: Cardiac and pulmonary problems which require intensive care will be the focus of the course sponsored by The University of Texas Medical School at San Antonio Oct. 11-Dec. 13. The course is accredited for 90 hours by the AAFP and Category 1 of the AMA Physician's Recognition Award. Fee: $150. Contact: Dr. Theodore Sabo, Department of Medicine, 7703 Floyd Curl Dr., San Antonio 78284.

Psychiatry: Sponsored by The University of Texas Medical School at San Antonio, a course entitled "Psychiatric Treatment in the 70's" will be presented at the Inn of the Hills, Kerrville, Tex., Oct. 19-21. The course will include discussions on the referral of children, use of psychotropic drugs, treatment of adolescents, and new approaches to helping those with sexual disorders. This course is acceptable for 9 hours by the AAFP and Category 1, AMA Physician's Recognition Award. Fee: $60. Contact: Dr. Robert Leon, Department of Psychiatry, 7703 Floyd Curl Dr., San Antonio 78284.

Rheumatology: "Rheumatology for the Family Physician," a course covering common rheumatic problems with emphasis upon diagnosis, interpretation of laboratory results, and both the principles as well as the specifics of management, will be presented Oct. 25-Dec. 20 by The University of Texas Medical School at San Antonio. The course is acceptable for 16 hours by the AAFP and Category 1, AMA Physician's Recognition Award. Registration fee: $50. Contact: Dr. Robert H. Persellin, Department of Medicine, 7703 Floyd Curl Dr., San Antonio 78284.

Must vasodilators and therapy for other diseases come into conflict?

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VASODILAN®
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the compatible vasodilator... no treatment conflicts reported

The cerebral or peripheral vascular disease patient often has coexisting disease[1] which calls for another drug along with his vasodilator. It may be a hypoglycemic, miotic, antihypertensive, diuretic, anticoagulant, corticosteroid, or coronary vasodilator.

Vasodilan is not incompatible with any of these drugs—no treatment conflict has been reported. And, unlike other vasodilators, Vasodilan has not been reported to affect carbohydrate metabolism, liver function, or intraocular pressure—or to complicate treatment of diabetes, hypertension, peptic ulcer, glaucoma, or liver disease.

In fact, there are no known contraindications to the use of Vasodilan in recommended oral doses, other than that it should not be given in the presence of frank arterial bleeding or immediately postpartum.

1. Gertler, M. M., et al.: Geriatrics *25*:134-148 (May) 1970.

Indications: Based on a review of this drug by the National Academy of Sciences-National Research Council and/or other information, the FDA has classified the indications as follows:

Possibly Effective:

1. For the relief of symptoms associated with cerebral vascular insufficiency.
2. In peripheral vascular disease of arteriosclerosis obliterans, thromboangiitis obliterans (Buerger's Disease) and Raynaud's disease.
3. Threatened abortion.

Final classification of the less-than-effective indications requires further investigation.

Composition: Vasodilan tablets, isoxsuprine HCl, 10 mg. and 20 mg.

Dosage and Administration: 10 to 20 mg. three or four times daily.

Contraindications and Cautions: There are no known contraindications to oral use when administered in recommended doses. Should not be given immediately postpartum or in the presence of arterial bleeding.

Adverse Reactions: On rare occasions, oral administration of the drug has been associated in time with the occurrence of severe rash. When rash appears, the drug should be discontinued. Occasional overdosage effects such as transient palpitation or dizziness are usually controlled by reducing the dose.

Supplied: Tablets, 10 mg.—bottles of 100, 1000, 5000 and Unit Dose; 20 mg.—bottles of 100, 500 and Unit Dose.

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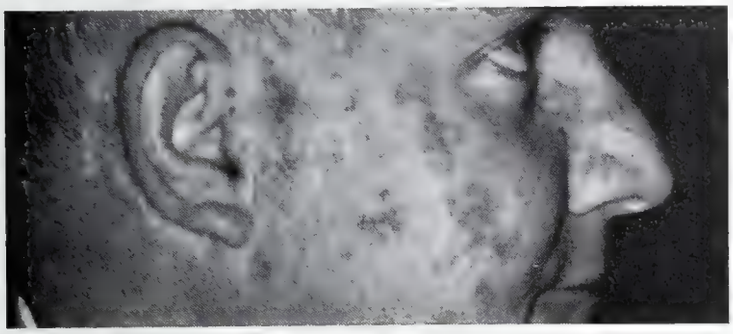
What's on your patient's face...

may be more important than his chief complaint

The lesions on his face may be solar/actinic — so-called "senile" keratoses...and they may be premalignant.

Solar, actinic or senile keratoses

These lesions may be called by several names, but they usually can be identified by the following characteristics: the typical lesion is flat or slightly elevated, of a brownish or reddish color, papular, dry, rough, adherent, and sharply defined. They commonly occur as multiple lesions, chiefly on the exposed portions of the skin.



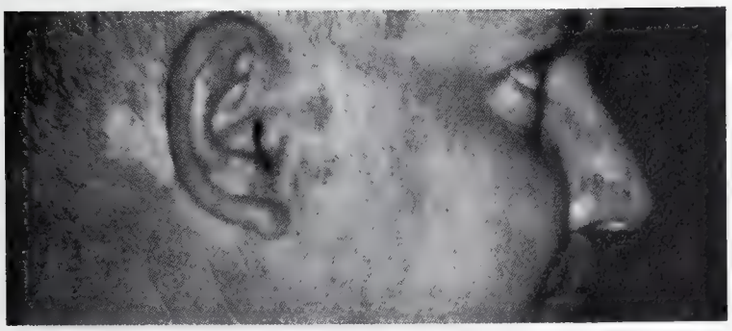
Patient P.T. seen on 3/29/67 shows typical lesions of moderately severe keratoses. Note residual scarring on ridge of nose from previous cryosurgical and electrosurgical procedures.*

Sequence of therapy/ selectivity of response

After several days of therapy with Efudex® (fluorouracil), erythema may begin to appear in the area of the lesions; the reaction usually reaches its height of unsightliness and discomfort within two weeks, declining after discontinuation of therapy. This reaction occurs in affected areas. Since the response is so predictable, lesions that do not respond should be biopsied.

Acceptable results

Treatment with Efudex provides highly favorable cosmetic results. Incidence of scarring is low. This is particularly important with multiple facial lesions. Efudex should be applied with care near the eyes, nose and mouth.



Patient P.T. seen on 6/12/67, seven weeks after discontinuation of 5%-FU cream. Reaction has subsided. Residual scarring not seen except for that due to prior surgery. Inflammation has cleared and face is clear of keratotic lesions.*

*Data on file, Hoffmann-La Roche Inc., Nutley, N.J.

Before prescribing, please consult complete product information, a summary of which follows:

Indications: Multiple actinic or solar keratoses.

Contraindications: Patients with known hypersensitivity to any of its components.

Warnings: If occlusive dressing used, may increase inflammatory reactions in adjacent normal skin. Avoid prolonged exposure to ultraviolet rays. Safe use in pregnancy not established.

Precautions: If applied with fingers, wash hands immediately. Apply with care near eyes, nose and mouth. Lesions failing to respond or recurring should be biopsied.

Adverse Reactions: Local—pain, pruritus, hyperpigmentation and burning at application site most frequent; also dermatitis, scarring, soreness and tenderness. Also reported—insomnia, stomatitis, suppuration, scaling, swelling, irritability, medicinal taste, photosensitivity, lacrimation, leukocytosis, thrombocytopenia, toxic granulation and eosinophilia.

Dosage and Administration: Apply sufficient quantity to cover lesion twice daily with nonmetal applicator or suitable glove. Usual duration of therapy is 2 to 4 weeks.

How Supplied: Solution, 10-ml drop dispensers—containing 2% or 5% fluorouracil on a weight/weight basis, compounded with propylene glycol, tris(hydroxymethyl)aminomethane, hydroxypropyl cellulose, parabens (methyl and propyl) and disodium edetate.

Cream, 25-Gm tubes—containing 5% fluorouracil in a vanishing cream base consisting of white petrolatum, stearyl alcohol, propylene glycol, polysorbate 60 and parabens (methyl and propyl).

This patient's lesions were resolved with

Efudex® (fluorouracil)

5% cream/solution ...a Roche exclusive

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Antivert® (meclizine HCl) for vertigo*

...and then on to Venice

- Indicated in the management of nausea, vomiting and dizziness associated with motion sickness.
- Found useful in the management of vertigo associated with diseases affecting the vestibular system.
- Available as Antivert® (12.5 mg. meclizine HCl) blue and white scored tablets and also as Antivert®/25 (25 mg. meclizine HCl) yellow and white scored tablets.

*INDICATIONS. Based on a review of this drug by the National Academy of Sciences-National Research Council and/or other information, FDA has classified the indications as follows:

Effective: Management of nausea and vomiting and dizziness associated with motion sickness.

Possibly Effective: Management of vertigo associated with diseases affecting the vestibular system.

Final classification of the less than effective indications requires further investigation.

CONTRAINDICATIONS. Administration of Antivert during pregnancy or to women who may become pregnant is contraindicated in view of the teratogenic effect of the drug in rats.

The administration of meclizine to pregnant rats during the 12th-15th day of gestation has produced cleft palate in the offspring. Limited studies using doses of over 100 mg./kg./day in rabbits and 10 mg./kg./day in pigs and monkeys did not show cleft palate. Congeners of meclizine have caused cleft palate in species other than the rat.

Meclizine HCl is contraindicated in individuals who have shown a previous hypersensitivity to it.

WARNINGS. Since drowsiness may, on occasion, occur with use of this drug, patients should be warned of this possibility and cautioned against driving a car or operating dangerous machinery.

Usage in Children: Clinical studies establishing safety and effectiveness in children have not been done; therefore, usage is not recommended in the pediatric age group.

Usage in Pregnancy: See "Contraindications."

ADVERSE REACTIONS. Drowsiness, dry mouth and, on rare occasions, blurred vision have been reported.

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0.025 mg. 0.05 mg. 0.1 mg. 0.2 mg 0.3 mg 0.5 mg

Indications: Hypothyroid conditions.
Contraindications: Thyrotoxicosis, acute myocardial infarction and in the presence of uncorrected adrenal insufficiency because it increases the tissue demands for adrenocortical hormones and may cause an acute adrenal crisis
Warnings: Should be used with caution in patients with cardiovascular disease, including hypertension Development of chest pain or other aggravation of cardiovascular disease will require a decrease in dosage

Injection of epinephrine in patients with coronary artery disease may precipitate an episode of coronary insufficiency. This may be enhanced in patients receiving thyroid preparations. Careful observation is required if catecholamines are administered to patients in this category. Patients with coronary artery disease should be carefully observed during surgery, since the possibility of precipitating cardiac arrhythmias may be greater in those treated with thyroid hormones.

Thyroid replacement may potentiate anticoagulant effects with agents such as warfarin or bishydroxycoumarin and reduction of one-third in anticoagulant dosage should be undertaken upon initiation of LETTER® (sodium levothyroxine, Armour) tablets therapy. Subsequent anticoagulant dosage adjustment should be made on the basis of frequent prothrombin determinations

In patients whose hypothyroidism is secondary to hypopituitarism, adrenal insufficiency will probably also be present. When adrenal insufficiency and hypothyroidism coexist, the adrenal insufficiency should be corrected by corticosteroids before administering thyroid hormone.
Precautions: Patients with hypothyroidism, and especially myxedema, are particularly sensitive to thyroid preparations so that treatment should begin with small doses and increments should be gradual

In patients with diabetes mellitus, addition of thyroid hormone therapy may cause an increase in the required dosage of insulin or oral hypoglycemic agents. Conversely, decreasing the dose of thyroid hormone may possibly cause hypoglycemic reactions if the dosage of insulin or oral hypoglycemic agents is not adjusted
Adverse Reactions: Excessive dosage of thyroid medication may result in symptoms of hyperthyroidism. Since, however, the effects do not appear at once, the symptoms may not appear for one to three weeks after the dosage regimen is begun. The most common signs and symptoms of overdosage are weight loss, palpitation, nervousness, diarrhea or abdominal cramps, sweating, tachycardia, cardiac arrhythmias, angina pectoris, tremors, headache, insomnia, intolerance to heat and fever. If symptoms of overdosage appear, discontinue medication for several days and reinstitute treatment at a lower dosage level
Dosage: Generally, the initial adult dosage is 0.1 mg daily. This may be increased in small increments every 1 to 3 weeks until proper metabolic balance is achieved
Available: Bottles of 100 tablets, in 6 potencies 0.025 mg. (violet), 0.05 mg. (peach), 0.1 mg (pink), 0.2 mg. (green), 0.3 mg (yellow), and 0.5 mg. (white)

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The opiates and their derivatives

Laurence DeBoer

With this issue of Texas Medicine *the Baylor SAMA Drug Information Committee continues its series of monographs on psychoactive drugs. This group of papers deals with uppers and downers including mankind's single most abused drug, ethyl alcohol. The information contained here was not designed to be all-inclusive, nor is it the "latest" in pharmacology. Rather, we have tried to prepare a readily available source of basic factual information for the practicing physicians of Texas. Voluminous additional data is to be found in the literature. Anyone wishing more specific information on a particular topic should feel free to contact the Committee. We will gladly provide what information we can find.*

We also wish to express our appreciation to Drs. Reba Hill, Joseph Schoolar, Montague Lane, and Hebbel Hoff for their guidance and advice; and to Skip Harris (SAMA), Ms. Mary Jane Rothacker, and Ms. Margaret Northcutt for their assistance in the preparation of this symposium.

Baylor SAMA Drug Information Committee

The use and abuse of narcotics covers a wide field. The heroin industry is a major economic factor in any large American city, to say nothing of its effects on government and law enforcement. The addict can be seen as an unappetizing result of social pressure, as a victim of psychopathological conflicts, or as a bipedal confirmation of Pavlovian conditioning. Furthermore, history confirms that the opiates are tied intimately with the development of medicine, civilization, and the arts.

Pharmacology

There is a variety of narcotics, each with peculiarities of absorption, length of action, and side effects. Raw opium is the dried sap of the seed capsule of the poppy. This is purified to refined opium. Morphine makes up 10% of this product; codeine 0.5%. Diacetylmorphine (heroin) is the result of acetylating both hydroxyl groups of morphine. It is considerably more potent. Meperidine (Demerol) is a synthetic drug with significant narcotic effects. Its chemical structure is different from that of morphine, but at equivalent dosages its properties are essentially equal. Methadone has another chemical structure, yet its addictive and analgesic effects are similar to those of other narcotics. It has the advantage of a long duration of action and is well absorbed orally.

The pharmacological effects of the narcotics are legion, but the mechanism of action is unknown and provides a fertile ground for speculation. Centrally their most important effect is analgesia, with relief from the suffering induced by pain. They do not affect the pain threshold. They also cause drowsiness, mental dullness, and changes in mood.[10] They can cause dysphoria, especially in someone new to the drug, but profound euphoria also is

1. The opium poppy, Popaver somniferum.

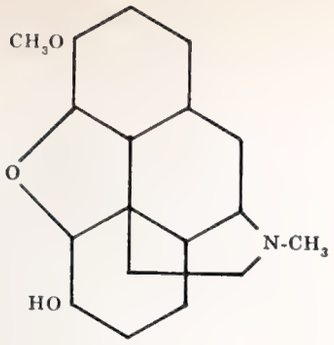
produced. The EEG shows increased voltage and decreased frequency. Respiration is depressed by decreasing the sensitivity of the brain stem to carbon dioxide. Cough suppression is another major effect. Nausea can occur via stimulation of the medullary chemotrigger zone. Pupillary constriction is classical.[16]

There is little cardiovascular effect, but there is some decrease in orthostatic responsiveness. There is some peripheral vasodilatation. Gastric retention occurs secondary to increased tone of the pylorus. Secretion is decreased. Motility of the small intestine is decreased, but there is an increase in nonpropulsive contraction. Tone in the colon is increased to the point of spasm, and there is almost no propulsive contraction. Addicts are invariably constipated. There is increased rectal tone. In the biliary tract, there is spasm of Oddi's sphincter and increased biliary pressure. There is some increase in tone in the ureter and bladder. Pruritus, sweating, and flushing of the skin may be prominent and often indicate to the addict that a "rush" is coming.

These widespread effects on the central nervous, gastrointestinal, and pulmonary systems have endeared the opiates to physicians. Osler called them "God's own Medicine." They have a permanent place in the treatment of pain, cough, diarrhea, and pulmonary edema.[16]

Addiction, Tolerance and Withdrawal

Addiction to the narcotics is characterized by tolerance to the euphoric, sedative and analgesic effects. During the onset of addiction, the user has a period of time when he feels the euphoria of heroin. This honeymoon period is short, and soon the drug is no longer a pleasure, but rather a necessary requisite to "feel normal." He experiences



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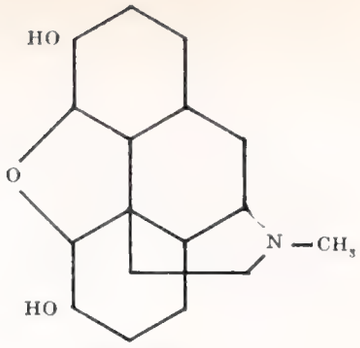


MORPHINE

mainly the relief from early withdrawal symptoms. This has profound meaning for the methadone program; it implies that narcotics can cause a permanent change in a person, and that "normality" can be achieved only with the continuing use of narcotics. The validity of this implication, however, is strongly challenged in many circles.[23]

In the dependent patient, when heroin is withheld, a well characterized withdrawal syndrome occurs. This can be divided into several phases: After 8 to 12 hours, rhinorrhea, yawning, and increased perspiration develop. The addict may then fall into a restless "yen" sleep. He awakens miserable. He hurts everywhere. He can't sleep. He may be nauseated or have diarrhea. Anorexia, gooseflesh, irritability, and tremor become prominent. These symptoms peak at about 24-48 hours. The syndrome has been compared to a bad case of influenza. There follows a postwithdrawal asthenia. The patient does not feel normal, is inclined to depression, and fondly remembers heroin as a "cure."[20]

While acute withdrawal is usually considered to be harmless, the patient may develop severe reactions. Tremor may become gross. Ejaculation occurs spontaneously. There may be leukocytosis and abdominal pain. Anorexia may be so profound as to cause dehydration and cardiovascular collapse.

To avoid the severity of these symptoms, the patient can be converted to methadone. The longer action of this drug blunts the withdrawal syndrome, but increases its duration. Narcotic antagonists, on the other hand, can precipitate a full-blown withdrawal in less than half an hour after injection. This often can only be counteracted with dangerously high doses of narcotics.[23]

Medical Complications

As narcotic use increases in the United States, more physicians are being called on to treat the medical complications of illicit drugs. Many unusual acute and chronic diseases plague the addict.

The first hint that a patient uses narcotics can be obtained by viewing the skin. Hyperpigmented scars follow the course of veins. Their extent depends on the number of injections and the sclerosing properties of the substance. For instance, use of paregoric for injection in Detroit caused widespread sclerosis and forced addicts to find unusual places for injection, eg, the external jugular vein. Multiple subcutaneous abscesses may be prominent, the result of subcutaneous heroin injection (popping). These will leave punched out atrophic scars from 1 to 5 cm in diameter. Moreover, they may serve as a focus for sepsis and tetanus. The skin may be pale due to anemia secondary to malnutrition.[20,29]

Addicts frequently have nonspecific lymphadenopathy, often in the axilla. This may be due to adulterants in the injected mixture or to the narcotic itself. Autopsy shows that the lymphadenopathy is systemic, and nodes may increase to five times their normal size. In addition, the lymphocytes may appear bizarre on the peripheral smear. They can look like those found in mononucleosis, or have foamy cytoplasm or nuclei. These changes may persist long after the patient stops using narcotics.[29]

Pulmonary complications are frequent. The adulterants of heroin include talc and starch. These substances can cause granulomas in the lung which lead to thrombosis and pulmonary hypertension. The cotton used to filter heroin may be injected and cause similar lesions. Tuberculosis is common; pneumonia is also frequent. This may be caused by septic emboli from skin or

may be secondary to endocarditis. *Staphylococcus* is a common offender, producing necrotizing pneumonia and lung abscess. Nonstaphylococcal pneumonia may be secondary to respiratory depression and atelectasis. Asthma also has an increased frequency. The broncho-constrictive effect of heroin and morphine is well known, and may cause the asthma. The continued challenge of foreign proteins may also contribute to the condition.[21,22,32,26]

The most feared lung complication is acute pulmonary edema. This is a major killer of addicts. Multiple explanations of this acute condition have been offered. These include sudden myocardial decompensation secondary to the large doses of quinine,[21] hypoxia secondary to heroin-induced apnea, and acute hypersensitivity reactions with the lung as the target organ.

Another complication is endocarditis. The continuing shower of bacteria from unsterilized needles and drugs puts a tremendous challenge on the antibacterial mechanisms of the blood stream. When these break down, endocarditis can result. Right-sided endocarditis in heroin addicts is classical. It is difficult to diagnose because there are few signs or symptoms. The murmurs may be faint, atypical, and inconsistent. Moreover, they may not develop until late in the course of the disease. Septic pneumonia is a frequent complication. There are many instances where patients are readmitted to the hospital with endocarditis after staphylococcal pneumonia has been treated.[27]

Left-sided valvular disease is more common, and the findings are more classic. Embolic phenomena may be prominent. An enlarged spleen suggests subacute bacterial endocarditis. *Streptococcus* is the most common offender, but a variety of other organisms including *Candida* have grown on cultures. The aortic valve is affected in more than 40% of cases.[29]

Hepatic enlargement is common. Liver enzyme levels are frequently elevated. This is usually because of anicteric serum hepatitis. Hepatitis heads the list of complications requiring hospitalization. Needle-associated malaria is infrequent now, but the influx of malarial addicts from Southeast Asia may cause it to increase in the near future. The use of quinine as an adulterant may provide some protection against this.[29]

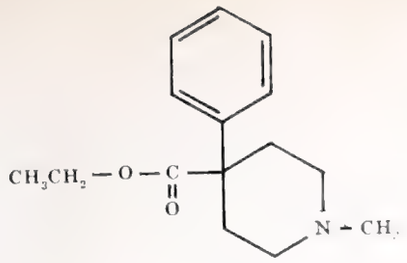
In spite of decreased libido, narcotic addicts have an increased incidence of venereal disease. The VDRL results can be falsely elevated.[3]

National attention recently focused on two rare complications of addiction. These are osteomyelitis of the spine and rhabdomyolysis with myoglobinuria. The latter responded to antibiotics only after surgical drainage. The former must be included in the differential diagnosis of back pain in any suspected addict.[19]

Overdose—A Misnomer

Since 1943 there has been an increase in deaths among addicts. These most often carry the pathologist's report of "overdose." In New York this is the leading cause of death for males 15-35 years of age. What is difficult to believe is that many of these deaths are not related to taking *too much* of a drug. In fact, the addict's tolerance to narcotics is remarkable. In Philadelphia in 1929, addicts were given up to nine times their usual dosage of morphine without any visible effect. One addict was given 1.3 gm of morphine sulfate intravenously without any reaction.[4,20]

The term "overdose" obscures the cause of sudden death following heroin usage. Many of these deaths are due to pulmonary



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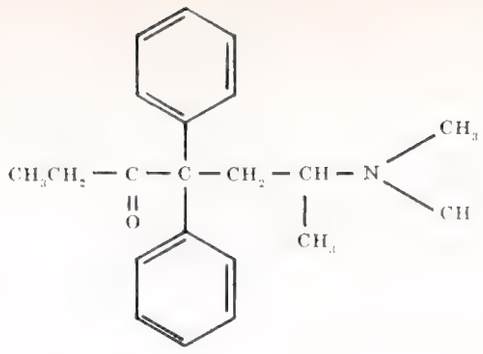

METHADONE

edema, not narcotism. But there is no theory that explains adequately why one addict is affected and the group that he was with, all using the same heroin, are unaffected. Some observers feel that quinine might cause sudden cardiac decompensation. There are several recorded deaths of women who used quinine as an abortifacient. Other workers feel that there is an acute hypersensitivity reaction to the foreign proteins contained in contaminated heroin. The lung is the major target organ and reacts with a massive outpouring of edema fluid. Still others are fascinated with the apparent synergism between alcohol and heroin in the syndrome. They note that 43% of all autopsied addicts show traces of alcohol in the blood. They also note that many addicts feel that alcohol and heroin are not compatible.[13,21,31]

Whatever the cause, many "heroin" deaths are not the result of excess drug, and the use of the term "overdose" obscures the real cause. It would be more appropriate to label these deaths as being caused by "acute pulmonary edema following heroin injection," and drop the term "overdose." Perhaps in the future pathologists can provide data that will allow differentiation between norcotism and acute pulmonary edema.

The Addict's World

Since narcotics are illegal, no accurate statistics exist on the number of addicts in the US. The last nationwide survey to determine this was done in 1928 by Terry and Pellens (*The Opium Problem*). Using federal and state records, clinical statistics, and a national survey, they extrapolated that there were between 140,554 and 269,000 addicts in the country. A recent attempt to obtain these data included a review of the Federal Bureau of Narcotics Registry, the New York City Health Department Registry, and the records of the NIMH hospitals in Fort Worth and Lexington.[1] These statistics indicated that there were 108,424 known addicts in the United States in 1967, and that 77% were from New York, Illinois, and California. Moreover, 92% of the admissions to federal hospitals were from major metropolitan areas of over one-half million. Addicts are young, 80% are under 40 years of age. Females account for between 16 and 21%. Hospital admissions show that 56% were from minority groups. The mean age of onset is 21.8 years.

The addict has a better-than-average education, but most likely has an illegal occupation. Of Lexington Hospital patients, only 33% had legal occupations. An additional 32% admitted to illegal activities. Moreover, most of the Lexington-Fort Worth patients had criminal records but 13% did not, and the latter patients had been addicted for almost ten years on the average.[1]

A distinct group of addicts was composed of southern white males. These patients were much more likely to come from a small town. Over 50% of them were legally employed, and only 19% admitted to illegal employment. These patients started their habit later in life, used narcotics other than heroin to a large degree, and most obtained their drugs from legal or semilegal sources.[1]

The addict is frequently a slum dweller. Within this milieu he works to find his daily fix. He pays for heroin by the "bag," "spoon," or "paper." A long-standing habit can cost hundreds of dollars a day.

Many people think of a heroin addict as being a dull, lethargic, inactive character. This couldn't be further from the truth. George Stevenson has aptly described what the life-style of a big city addict is like:

> The activities of the drug addict become a full-time job. Formerly living with no real objective, with indolence and unemployment perhaps intimately related, the addict now finds he has to hustle. If he is going to use drugs steadily, he must find each day, by illegal means, the funds for the purchase of his drugs. This usually involves daily thieving, the sale to a "fence" or to beer parlor habitues . . . of the goods he has stolen, the locating of a drug peddler, negotiating for his supply, then the actual securing of the drugs at a designated time and place, followed by the locating of a presumably secure place where he can inject his drugs and rest and relax for several hours after the injection. He may take his last injection of the day at midnight, having in reserve a supply for his first "fix" the following morning on awakening. A program such as this keeps the addict busy all day. He has no time for boredom. He has barely time enough after each injection to enjoy the effects before he may start another phase of this cycle. In other words, the addict now has a job, a full-time job . . . not governed by regular hours as is most legal employment.[30]

Preble and Casey call it "taking care of business," and the meaning lies in the gratification of accomplishing a series of challenging, exciting tasks, every day of the week.

Methadone Maintenance

The plethora of narcotic-containing medicine at the turn of the century was brought under control by the Harrison Narcotics Act of 1914. This act made the addict resort to illegal methods of getting his narcotics. It became illegal for the medical profession to provide narcotics for the maintenance of addiction.[4]

What developed is the modern method of heroin distribution and recruitment into addiction: an illegal black market with a large number of customers. Sixty years of law enforcement has failed to stem the rising number of addicts in the United States, and heroin is easily obtainable within any large city. Medical treatment was confined to withdrawing addicts and providing support through psychiatric and therapeutic communities. The success rate of these programs was poor.[12]

Methadone is a long-acting orally administered narcotic. Methadone maintenance programs provide this drug to addicts under medical supervision. They stem from work of Vincent Dole, who discovered that addicts on methadone were able to find employment and become functioning members of society. The goal of the methadone program is limited. It attempts to make addicts into noncriminal and productive citizens. They are not withdrawn from narcotics, but rather are provided with methadone and are viewed as patients with a chronic illness requiring constant medication (not unlike diabetics).[8,9,18]

Admission into programs is generally limited to long-term addicts. Since addiction occurs at an early age, most programs do not have a minimum age limit, but are concerned that they provide methadone only to those who have been addicted for some period of time. Maintenance dosages of between 50 and 100 mg are provided in a noninjectable media, either in orange juice or in tablet form.[25]

The results are generally optimistic, but they vary. Up to 80% of the addicts remain in the program for several years. The arrest rate of these addicts falls precipitously when compared to their pretreatment arrest rate. During the initiation of treatment,

addicts often try heroin to see if they get a kick from it. When they find that they no longer are affected by street heroin due to the "blockage" effect of methadone in high doses, many never buy the drug again. Monitoring of patients is done by urinalysis.[10,25]

Maintenance programs do not seek to withdraw addicts; they remain dependent on narcotics. They are, however, released from the necessity of engaging in illegal activity to get their drugs. A large percentage of the addicts turn to lawful means of employment and do become productive citizens.

As the programs expand, many issues will have to be dealt with. Of particular concern is abuse of methadone. Methadone is becoming a common item on the black market and has been responsible for several deaths. Rehabilitation training is necessary in any program, and the expense of these programs is considerable.

Methadone programs have been in existence since 1968. It may take 15 or 20 years before some questions are finally answered. During that time, research is centering around methods of keeping addicts off narcotics of any kind. The Nixon Administration is pushing for research on narcotic antagonists that will prevent the use of heroin. Long-term studies are under way to determine the effect of methadone. Presently the drug remains under the experimental status, but it is clear that this is to effect close control by the Department of Health, Education, and Welfare. Moreover, the position of the private physician in treating addicts will have to be continually reevaluated.[2]

A copy of the author's reference list is available on request from *Texas Medicine*, 1801 N Lamar Blvd, Austin, Tex 78701.

Nonbarbiturate sedatives

Edwin C. Yeary

Sedatives are increasing in usage and importance as man demands chemical assistance for relaxation and sleep. The barbiturates are excellent drugs for these purposes on a short-term basis. However, chronic usage leads to undesired side effects—addiction and withdrawal, tolerance, and overdosage.

The search for a sleep-producing agent that is nonaddicting and relatively nontoxic has led to the development of the nonbarbiturate sedatives.

Taken as a whole, the nonbarbiturate sedatives constitute a mixed group with widely varying chemistries, dosages, and valid uses. Some are very old, while others have been developed quite recently. Some are relatively benign; others are severely toxic. Some have limited application, but others are among the most commonly prescribed items today. Generally, however, all are depressants which possess most of the characteristics of barbiturates. Low doses induce sedation. Slightly higher doses lead to hypnosis. Most can mimic the symptoms of barbiturate overdose—slurred speech, ataxia, confusion, drowsiness, coma, and death due to respiratory collapse. On top of this, physical dependence has been shown to occur complete with a barbiturate-like withdrawal.

Yet almost invariably, when each sedative was introduced, it was proclaimed to be nonaddicting with little possibility for either residual drug effects or complications. These were to be the wonder drugs of a new age. Because of lack of public and professional understanding, these drugs became susceptible to misuse as people began to disregard the inherent damages of all central nervous system (CNS) depressants.

There are some 27 nonbarbiturate sedatives on the market. The two most common agents are glutethimide (Doriden) and chloral hydrate, but many others are being produced every year.

Piperidinedione Derivatives

Glutethimide

Trade Name: Doriden

History: Introduced in 1954, glutethimide was one of the first of the new generation of nonbarbiturate drugs. It was lauded as a hypnotic and sedative free of the barbiturate complications of difficult maintenance and the possibility of physical addiction.[5] At the time of its introduction, it was also stated that because it produced no concomitant sense of euphoria, glutethimide was probably nonaddictive. It rapidly gained favor as one of the most popular hypnotics prescribed in the US, trailing the front-running barbiturates only slightly. Because of this early acceptance and its classification as a short-term sedative, glutethimide had a great potential for misuse. By 1962, 68 cases of glutethimide poisoning, and 14 deaths were on record.[10] Twenty-two cases of glutethimide overdose were reported in the first half of 1962 in New York alone.[7] The early claim of nonaddictiveness was altered when 20 cases of frank dependence were reported along with severe barbiturate-like withdrawal.

Chemistry: The structure of alpha-ethyl-alpha-phenylglutarimide closely resembles phenobarbital. Glutethimide is a white, odorless powder insoluble in water.[5] Indications for glutethimide therapy include insomnia, preoperative sedation, and sedation during the first stage of labor.

The recommended dosages are: hypnotic, 0.5 gm to 1 gm every four hours as needed; and sedative, 0.25 to 0.5 gm three times daily.[14]

Toxicity: Severe glutethimide intoxication

occurs with the ingestion of 5 gm. A lethal dose is 10 to 20 gm, and the mortality rate with 10 gm is 45%.

Any case of overdosage in which glutethimide is indicated should be treated as a life-threatening situation. Emergency room treatment is complicated somewhat by the fact that overdosage may actually have resulted from alcohol or barbiturate use accompanying glutethimide ingestion. Suicide attempts using glutethimide are more likely to be committed with a handful of various sedatives. Maher[11] says approximately 50% of the overdose cases he has received in which glutethimide was implicated were multiple drug ingestions. Presenting signs include CNS depression with varying grades of coma in proportion to the dose taken. Varying temperature levels may be encountered, ranging from hypothermia to fever. Deep tendon reflexes are diminished and sometimes totally absent. The corneal and pupillary reflexes will be depressed or absent. Large dilated pupils unresponsive to light also may result. Bowel sounds may be reduced as well. Cyanosis, if apparent, usually indicates decreased respiratory function, and there is great danger of sudden apnea at this stage. The drop into respiratory collapse is less precipitous and is generally easier to manage than that found in barbiturate overdose. Hypotension is characteristic of glutethimide overdose.

Other outward, and less severe, symptoms include dry mouth and atonic bladder characteristic of peripheral cholinergic blockage.[15]

Treatment should begin with intubation. Gastric lavage is called for regardless of the amount of time which has elapsed since initial ingestion, since the drug has a high lipid to water partition coefficient, and tends to remain in the stomach for a long time.

Chronic use of glutethimide leads to tremulousness, tachycardia, nausea, fever, and tonic muscle spasms sometimes leading to generalized convulsions upon withdrawal. The presenting signs are sometimes complicated since they also are seen in the patient who takes prescribed doses regularly and who has not undergone abstention. Acutely intoxicated patients may also exhibit these signs even with no history of chronic use.[3] Other effects include a combined action with other CNS depressants, and interference in coumarin anticoagulation therapy.

Methyprylon

Trade Names: Noludar, Noludar 300
Chemistry: 3,3 diethyl-5-methyl-2, 4-piperidinedione is a white, crystalline powder soluble in both water and alcohol.
Toxicity: The recommended dosage of methyprylon is 200 to 400 mg.[14] Patients have recovered after having ingested 20-gm doses, and death has been known to occur with 6 gm.[16]

Hypnosis, side effects, and toxicity are virtually indistinguishable from the barbiturates. Dose ranges are comparable to that for secobarbital. In toxic reactions, methyprylon is as capable of producing cardiogenic hypertension as are the barbiturates, although there is less of a respiratory depressant effect.

Chloral Derivatives

Chloral Hydrate

Trade Names: Felsules, Kessodrate, Noctec, Rectules Suppositories.
History: Chloral hydrate is one of the oldest of the sedative groups, having made its appearance before the advent of barbiturates. It was first produced by Leibig in 1832 as part of the search for a drug that

could release chloroform slowly in vivo. Its hypnotic properties were first ascribed to this action, but later on, this idea was discredited.

Although the popularity of chloral hydrate dropped somewhat with the introduction of the barbiturates, it is now regaining some favor. The notorious "Mickey Finn" (two drops of which, placed in an adversary's scotch and water, left him cold for hours) was a chloral derivative. It was first assumed that the effect of the Mickey Finn was due to a chemical interaction of chloral and alcohol, but it is now thought to be the simple additive effects of the two depressants.[5]

Chemistry: Chloral, or trichloroacetaldehyde, (CCl_3CHO) is an oily liquid which becomes crystalline white when hydrated. The white crystals are soluble in both oil and water. One gram dissolves in 0.2 cc of water and 1.3 cc alcohol and 2 cc chloroform. In use, it is largely reduced to trichloroethanol in the liver, and is transformed so quickly that it is difficult to monitor blood levels of chloral. It is believed that chloral hydrate-induced CNS depression is due almost entirely to trichloroethanol production.[21] The two drugs act equally.[22]

Indications: Nocturnal sedation for a wide spectrum of patients is regarded as the chief function of all the brand name drugs listed earlier. It is used to allay anxiety preoperatively, and is used in conjunction with barbiturates for sedation in the first stages of labor.[14]

The recommended dosage for chloral therapy is 500 mg to 1 gm preoperatively for a hypnotic effect. Sedation is achieved with the administration of 250 mg, usually three times daily, and total daily dosage should not exceed 2 gm.

Chloral hydrate has been shown to be addictive. It reduces the effectiveness of the coumarin anticoagulants, and withdrawal of chloral hydrate therapy may reestablish anticoagulant activity. Alcohol potentiates the CNS depressing properties of chloral hydrate. Large doses of chloral hydrate should not be used in patients with severe cardiac disease. Kidney and liver damage may occur. Its use is contraindicated in patients with severe hepatic or renal failure. Oral doses cause an irritative gastritis.

Toxicity: Ten gm of chloral constitute a toxic oral dose. Deaths have been reported with as little as 4 gm, while some individuals have survived ingestion of 30 gm.

Acute intoxication closely resembles barbiturate overdose. Gastric irritation induced by chloral hydrate may produce vomiting. Pinpoint pupils similar to those found in morphine overdose may be seen. Damage to both the liver and the renal tissues can result.

Sudden withdrawal results in delirium similar to that experienced by alcoholics. Chloral hydrate can be a treacherous drug, for when renal or hepatic damage reduces the excretion rate, a break in tolerance occurs which can be lethal.

Chloral addicts can become habituated to enormous doses ranging from 12 to 14 gm daily. Chloral addiction is not seen as frequently as glutethimide addiction or intoxication, but there is some evidence that its popularity is on the rise.[4]

Chloral Betaine

One other form of chloral hydrate still in use is chloral betaine (Beta-Chlor). Actions, signs, and symptoms of abuse are virtually the same for chloral betaine as for chloral hydrate. The only difference is in dosage. Beta-Chlor, 870 mg, has the same effect as 500 mg of chloral hydrate. Beta-Chlor is transformed, while still in the stomach, to

chloral hydrate and an inactive byproduct. This gradual release of chloral hydrate has the effect of alleviating the gastric irritation.

Inorganic Salts

Bromine agents: bromisovalum
Trade Name: Bromural
History: Bromisovalum (Bromural) belongs to the so-called "safe" sedative hypnotics of the monoureide class. It exerts its action on becoming hydrolyzed in the liver to release free bromine.

Bromide was used in the latter half of the 19th century to treat epileptics, and it is still used in some institutions today to treat grand mal seizures. Bromide concoctions were the favorites of the traveling "doctors" and medicine men.
Indications: Bromural is described as a drug that is useful in relieving anxiety, and also in treating insomnia.
Dosage: Recommended dosage of Bromural to achieve sedation is 324 mg every 3 to 4 hours. A hypnotic dose is 650 to 970 mg.[14]
Toxicity: Acute bromisovalum intoxication is rare, and symptoms are less severe than with most of the other sedatives. There is little danger of respiratory collapse. Instead, the signs of both chronic and acute intoxication are chiefly mental or neurological. Impairment of memory accompanied by slurred speech, drowsiness, irritability, and emotional imbalance are representative of neural manifestations which in severe cases lead to hallucination, delerium, and coma. Dermatitis is another common effect of bromine intoxication, and the lesions produced have often been mistaken for a wide range of maladies from pemphigus to tertiary syphilis. The skin lesions and the neural signs combined sometimes closely resemble those of tabes dorsalis. Signs of bromine poisoning usually begin to occur at blood levels of 19-25 mEq/liter.[18]

Paraldehyde

Trade Name: Paral
History: Paraldehyde, a cyclic polymer of acetaldehyde, was first introduced into medicine in 1882 by Cervello. It has since gained a reputation as a very disagreeable drug as a result of its unique taste and odor, which is not unlike being trapped behind a crosstown bus in heavy traffic. The fusel oil odor is also present on the breath of the patient since a significant percentage is excreted in the lungs unchanged. This factor was compounded somewhat by the use of paraldehyde in the treatment of delirium tremens. Not only did this eventually result in the addiction of the former alcoholic, but halitosis in the overdose rooms reached an unprecedented high. Damaged livers of alcoholics serve to shunt an even greater proportion of paraldehyde through the lungs as a first-line source of elimination.

It seemed logical to use such a fluid to treat alcoholics, since its disagreeable physical properties would seem to preclude addiction. In spite of this, a significant number of hardcore alcoholics have become addicted.[23]

Paraldehyde tends to break down spontaneously to acetaldehyde and acetic acid in the presence of light and air.[5]
Indications: Paraldehyde is a rapidly acting hypnotic, and a dose of 4 to 8 ml orally produces sleep in 10 to 15 minutes. It is also an effective anticonvulsant and has been used in the emergency treatment of tetanus, eclampsia, and status epilepticus.[5]
Dosage: Recommended dosages are 5 ml intramuscularly; 3 to 5 ml intravenously;

and 1 gm orally.[14] Toxic blood levels occur at 50 mg/100 ml.
Toxicity: Toxic doses delivered intravenously can result in massive pulmonary hemorrhage, subsequent edema, and right ventricular failure. Metabolic acidosis and toxic hepatitis have been reported in acute and chronic use of paraldehyde. However, acidosis as a result of paraldehyde intoxication is not well documented, and it is not clear if this is a manifestation of the impure deteriorated drug or a breakdown reaction using pure paraldehyde.[6]

Ethchlorvynol

Trade Name: Placidyl
Outside the occasional incidence of toxic amblyopia in long term (1,000 mg or more per day) use, the overdose and withdrawal symptoms are virtually the same as one would encounter in barbiturate overdose.[8]
Dosage: Hypnotic, 500 mg.[14]

Meprobamate

Trade Names: Bamadex Sequels, Pathibamate, Miltown, Milpath, Milprem, Miltrate, Meprospan, Meprotabs, Deprol, Equanil, Kesso-Bamate Tablets, PSM-200 and PBM-400, SK-Bamate.
History: Meprobamate has come to be known as the "rich man's barbiturate," or the "executive tranquilizer" because it serves the same function as phenobarbital, but is more expensive. First introduced as a tranquilizer, it was eventually marketed as such with relatively few restrictions. As a result, levels of misuse were high and the euphoric state produced was considered even better than that achieved with amobarbital. Double blind studies showed meprobamate and amobarbital as indistinguishable both in effects and withdrawal syndrome.[20]

Meprobamate has come under criticism not only for the liberties taken in its marketing, but also because of the fact that it is a so-called intermediate acting drug in terms of duration of effect. The intermediate group has been replaced by the longer acting phenobarbital for continuous sedation.
Dosage: The recommended sedative dose of meprobamate is 400 mg. The total daily dose should not exceed 2,400 mg.
Toxicity: At a blood level of 20 mg/100 ml, more fatalities than survivals will occur.[9] Management of overdose and withdrawal is the same for the barbiturates and meprobamate.

Methaqualone

Trade Names: Quaalude, Parest, Somnafac, Sopor, Somnafac Fourte, Biphetamine-T, Optimil.
History: Methaqualone brings us right up to the present situation. Its history is typical of the evolution of almost every nonbarbiturate sedative hypnotic developed. There are those who believe in the nonaddicting sedative, and others who insist that this is a very basic contradiction. The various arguments are not easily explained away but the pattern of development remains much the same.

In 1955 and 1956, Gujral and his coworkers introduced a new series of compounds based on 2,3 disubstituted quinazalones out of which methaqualone emerged as the preferred drug.
Dosage: Part of methaqualone's desirability lies in its dose strength. Dosage rivals that of cyclobarbital at 150 to 300 mg for a hypnotic effect. Quaalude seems to be superior in the hypnotic category since its effects last longer than those of a comparable barbiturate, there is no hangover, no rapid eye movement interference, and

consequently little or no rebound in increased paradoxical sleep time.[13] Like codeine, methaqualone is an antitussive, and unlike other morphine derivatives, there is an antispasmodic effect on smooth muscle, and therefore no biliary colic or constipation. Sleep occurs within 10 to 30 minutes after receiving a hypnotic dose.[1] A sedative effect is achieved with 75 mg. Toxicity: Methaqualone has a wide range of safety. A lethal dose occurs only at 114 to 133 mg/kg of body weight contrasted with 16 to 32 mg/kg for the barbiturates. There is no tendency toward respiratory collapse, and overdosage is usually marked by tonic clonic contractions and spontaneous vomiting. Hypotension has been known to occur as a direct action on the heart. Treatment in the overdose situation consists of maintaining an airway and pumping out the gastric contents while carefully monitoring blood pressure levels.

Despite many good points and widespread optimism concerning its relative lack of addiction capability, reports of Quaalude misuse are on the rise in the Houston area. At present, two to four cases of methaqualone abuse are seen each week at Texas Research Institute for Mental Science,[19] and it seems to be the hottest item on the street.

A copy of the author's reference list is available on request from *Texas Medicine*, 1801 N Lamar Blvd, Austin, Tex 78701.

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Rondomycin®
(methacycline HCl)

CONTRAINDICATIONS: Hypersensitivity to any of the tetracyclines
WARNINGS: Tetracycline usage during tooth development (last half of pregnancy to eight years) may cause permanent tooth discoloration (yellow-gray-brown), which is more common during long-term use but has occurred after repeated short-term courses. Enamel hypoplasia has also been reported. **Tetracyclines should not be used in this age group unless other drugs are not likely to be effective or are contraindicated.**
Usage in pregnancy. (See above **WARNINGS** about use during tooth development.)
Animal studies indicate that tetracyclines cross the placenta and can be toxic to the developing fetus (often related to retardation of skeletal development). Embryotoxicity has also been noted in animals treated early in pregnancy.
Usage in newborns, infants, and children. (See above **WARNINGS** about use during tooth development.)
All tetracyclines form a stable calcium complex in any bone-forming tissue. A decrease in fibula growth rate observed in prematures given oral tetracycline 25 mg/kg every 6 hours was reversible when drug was discontinued.
Tetracyclines are present in milk of lactating women taking tetracyclines.
To avoid excess systemic accumulation and liver toxicity in patients with impaired renal function, reduce usual total dosage and, if therapy is prolonged, consider serum level determinations of drug.The antianabolic action of tetracyclines may increase BUN. While not a problem in normal renal function, in patients with significantly impaired function, higher tetracycline serum levels may lead to azotemia, hyperphosphatemia, and acidosis.
Photosensitivity manifested by exaggerated sunburn reaction has occurred with tetracyclines. Patients apt to be exposed to direct sunlight or ultraviolet light should be so advised, and treatment should be discontinued at first evidence of skin erythema.
PRECAUTIONS: If superinfection occurs due to overgrowth of nonsusceptible organisms, including fungi, discontinue antibiotic and start appropriate therapy.
In venereal diseases, when coexistent syphilis is suspected, perform darkfield examination before therapy, and serologically test for syphilis monthly for at least four months.
Tetracyclines have been shown to depress plasma prothrombin activity; patients on anticoagulant therapy may require downward adjustment of their anticoagulant dosage.
In long-term therapy, perform periodic organ system evaluations (including blood, renal, hepatic).
Treat all Group A beta-hemolytic streptococcal infections for at least 10 days.
Since bacteriostatic drugs may interfere with the bactericidal action of penicillin, avoid giving tetracycline with penicillin.
ADVERSE REACTIONS: Gastrointestinal (oral and parenteral forms): anorexia, nausea, vomiting, diarrhea, glossitis, dysphagia, enterocolitis inflammatory lesions (with monilial overgrowth) in the anogenital region.
Skin: maculopapular and erythematous rashes; exfoliative dermatitis (uncommon). Photosensitivity is discussed above (See **WARNINGS**).
Renal toxicity: rise in BUN, apparently dose related (See **WARNINGS**)
Hypersensitivity: urticaria, angioneurotic edema, anaphylaxis, anaphylactoid purpura, pericarditis, exacerbation of systemic lupus erythematosus.
Bulging fontanels, reported in young infants after full therapeutic dosage, have disappeared rapidly when drug was discontinued.
Blood: hemolytic anemia, thrombocytopenia, neutropenia, eosinophilia
Over prolonged periods, tetracyclines have been reported to produce brown-black microscopic discoloration of thyroid glands; no abnormalities of thyroid function studies are known to occur
USUAL DOSAGE: Adults—600 mg daily, divided into two or four equally spaced doses. More severe infections: an initial dose of 300 mg followed by 150 mg every six hours or 300 mg every 12 hours. Gonorrhea: In uncomplicated gonorrhea, when penicillin is contraindicated, 'Rondomycin' (methacycline HCl) may be used for treating both males and females in the following clinical dosage schedule: 900 mg initially, followed by 300 mg q.i.d. for a total of 5.4 grams
For treatment of syphilis, when penicillin is contraindicated, a total of 18 to 24 grams of 'Rondomycin' (methacycline HCl) in equally divided doses over a period of 10-15 days should be given. Close follow-up, including laboratory tests, is recommended.
Eaton Agent pneumonia: 900 mg daily for six days.
Children—3 to 6 mg/lb/day divided into two to four equally spaced doses.
Therapy should be continued for at least 24-48 hours after symptoms and fever have subsided
Concomitant therapy: Antacids containing aluminum, calcium or magnesium impair absorption and are contraindicated. Food and some dairy products also interfere. Give drug one hour before or two hours after meals. Pediatric oral dosage forms should not be given with milk formulas and should be given at least one hour prior to feeding.
In patients with renal impairment (see **WARNINGS**), total dosage should be decreased by reducing recommended individual doses or by extending time intervals between doses
In streptococcal infections, a therapeutic dose should be given for at least 10 days.
SUPPLIED: 'Rondomycin' (methacycline HCl): 150 mg and 300 mg capsules; syrup containing 75 mg/5 cc methacycline HCl.

Before prescribing, consult package circular or latest PDR information.

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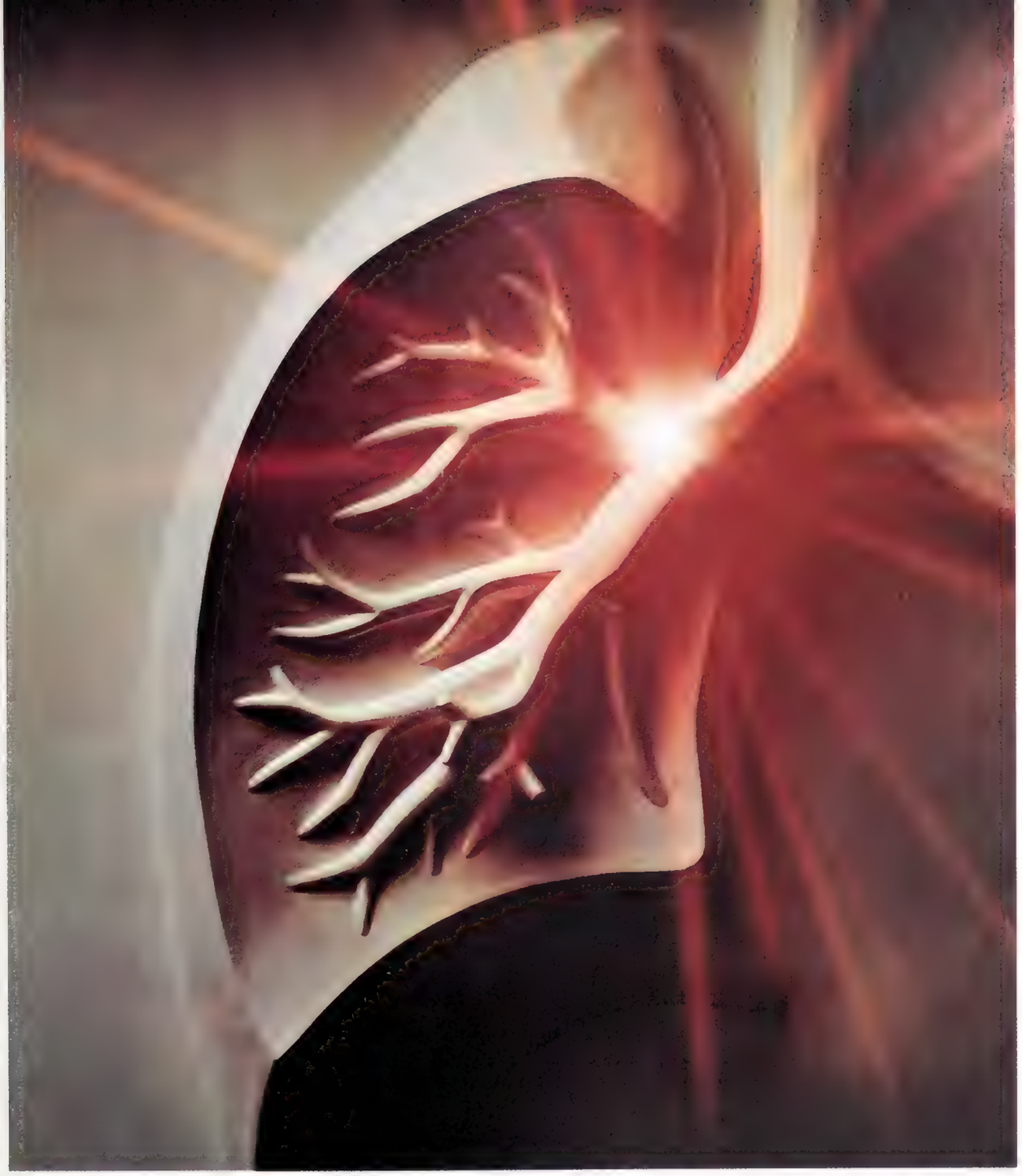

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Alcohol

Robert M. Shepard, John B. Rose

Before recorded history began—even before our earliest archeological findings—one of our ancestors noticed something different about the fruit juice he'd been saving. The sweet nectar was a little flat and had a "kick" to it. Thus man discovered what was to become an adjunct to religious ceremonies, an important medication, and the most ubiquitous social intoxicant throughout history—alcohol.

Beer, wines, and meads were used earlier than 6,000 BC. Tools for their preparation are among the oldest artifacts known. The Ebers Papyrus describes beer and wine as medicines and vehicles for relaxation and comfort in ancient Egypt. They were staples of the Roman and Byzantine Empires.

Jabir ibn Hayyan is credited with discovering the art of distillation around 800 AD. This process allowed one to concentrate the essence of the beer or wine. Jabir called this the "finely divided spirit" which in Arabic is "alcohol."[16] Distillation spread to Europe where the art flourished. Various fermented grain preparations were distilled to produce whiskey and rye, while distillation of wines and fruits led to brandies.

Gin, a cheap mash distillate described as an "adulterated, overpotent, and generally pernicious beverage," was born amongst the slums, filth, and poverty of industrializing England.

As social pressures mounted during the Industrial Revolution, a new phenomenon was described—the "alcoholic." The American Civil War brought an end to many social amenities, and excessive consumption became more than the exception in this country.[16]

Search for new controls led in many directions, including a 12-year experiment with prohibition. What finally has evolved is a complex set of legal and social regulations, plus governmental supervision and taxation, as well as the concept of treating alcoholism as a medical disease.

Preparations

Except for characters like Gen. Jack Ripper in *Dr. Strangelove*, alcohol is rarely consumed in a pure state. It is generally imbibed in naturally fermented beverages like beer or wine, or in the distilled state often mixed with other ingredients, eg soda, Collins mix, and orange juice. All the preparations produce predictable effects of ethanol, but the alcoholic concentrations vary and the other constituents can potentiate or inhibit these effects or have effects of their own. A quick survey of the general classes of alcoholic beverages may help to put things into perspective.

Beers

Beers are the product of yeast fermentation of "brewers wort," an extract of barley, malt, corn, and rice. Hops, the dried blossoms of the female *Humulus lupulus* vine, and water are added, and the liquid is clarified through various processes. There are several subclasses of beers within which there are countless varieties. These include lager beers, malt liquors, ale, stout, and porter. The differences have to do with the ratios of the particular ingredients. For example, malt liquor has more alcohol and fewer solids than regular beer. Ale has more hops.[16] There are presently hundreds of brands of beer products available in the US today.

All beers have relatively little ethanol (3-8%) and are low in carbohydrates (2-8%). Besides water and hop derivatives, they contain organic acids, esters, amino acids and peptides, traces of B vitamins, inorganic salts, and minerals. Beer has approximately the caloric content of nonfat

milk.[4] No alcoholic beverage contains sufficient B vitamins to prevent vitamin deficiencies if the diet is inadequate. A "beer-gut" is more a factor of volume and lack of exercise than it is a product of the beverage.

Table Wines

Table wines are the product of crushed and fermented grapes which have been cleared and aged. Their production and bottling are centuries-old traditions. Even their appreciation is an art. In general, table wines have a degree of inorganic material and an ethanol content of 10-14%. They are quite acid, with pHs ranging from 2.8 to 4.1.[16] Dry wines have carbohydrate levels up to 5%. Wines are either red or white, depending on whether or not the grape skins were removed before fermentation. Rosés are in between, having been fermented with skins only briefly. Champagne is a white wine that is doubly fermented with added sugar under pressure to trap the carbon dioxide.[16]

Dessert and Cocktail Wines

These beverages, of which sherry, port, Madeira, muscatel, and vermouth are the main constituents, have higher sugar (7-15%) and ethanol (20%) content. The pH is increased (to 3-5), as is the amount of B vitamins.[16]

Liqueurs

Liqueurs date back to the Arabic distillates. They are mixtures of herbs and seasonings and a distilled beverage. The ethanol concentration ranges between 20-50%, and the sugar content may reach 50%. These drinks are usually secret formulas known only to their creators. Chemical analysis and trial-and-error mixing often can only approximate the recipe.[16]

Miscellaneous Fermented Beverages

This group includes apple cider, sake or rice wine, pulque (cactus), and mead or honey beer. These beverages are limited to local use where the major ingredient is plentiful.

Distilled Spirits

These consist of brandies and "hard liquor." They result from distilling grain or fermenting fruit. The ethanol concentration can be up to 75% in some rums.

Making brandy and distilling wines began in France in the 17th Century. Apples, plums, cherries, apricots, and peaches have all been used to make brandies. In general these are wine drinks with a fruity flavor and increased ethanol content.

The whiskeys are made by distilling strong fermented mashes with no hops and aging them in charred barrels. Irish whiskey comes from corn and barley, scotch from corn and malted barley, and rye from rye and barley malt. Two American drinks are bourbon (corn, rye, and malted barley) and "Ozark Lightnin'" or "corn squeezin's" from corn and a little barley malt. Most whiskeys have an ethanol content of 40-50%. Moonshine can be a bit higher.

Rum is a molasses distillate that has been aged three months to three years. Its alcoholic content ranges from 40-75%.

Gin is basically a tasteless alcohol distillate from anything that undergoes a second flavoring distillation with juniper berries. Its ethanol level is between 30 and 50%.

Vodka is a product of 19th century Russia. A distillate of anything, probably potatoes, is passed through charcoal filters. The result is 40-50% ethanol in water and little else. Chemical analysis shows infinitely small amounts of the ingredients found in other spirits.[16]

Pharmacology

Ethyl alcohol is a small (molecular weight 46) hydrophilic and lipophilic molecule that is clear and colorless. Its boiling point is 78.5 C and its freezing point is —130 C. It mixes with water at all proportions.[16]

Absorption and Distribution

Alcohol diffuses easily along its concentration gradient across all biological membranes. Its absorption from the gastrointestinal tract varies. Its rate is directly proportional to the concentration of ethanol up to about 40%, but it is also dependent on other chemicals in the beverage, the presence or absence of food, the state of the gastric mucosa, and gastric emptying time.[16] It is rapidly and completely absorbed by the small intestine.[10]

It shows no affinity for any particular tissue and is found in proportion to the water content of each tissue, including the placenta and fetus.[10] It is nowhere actively transported and is neither excreted nor reabsorbed by the renal tubules. There is no arterial-venous difference in highly perfused organs, but the extremities require about 45 minutes to equilibrate. This redistribution may explain the sobering phenomenon after an initial inebriation. The alcohol concentration in the air of the alveoli is in equilibrium with that in the blood and is a better indication of blood level than is that measured in the urine. However, direct measurement of alcohol blood level correlates best with stages of intoxication.

Metabolism and Excretion

Small amounts of ethanol (2-10%) are excreted unchanged in the urine and through the lungs.

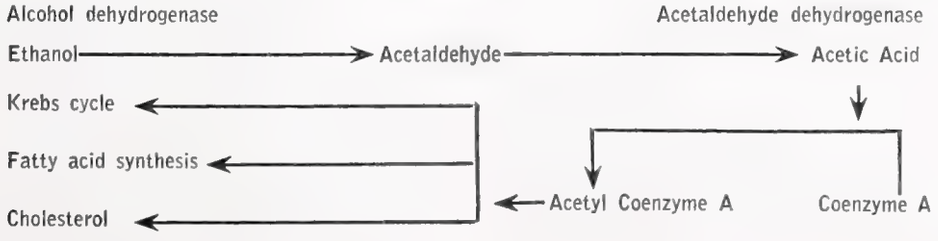
Most of the ingested ethanol is oxidized, primarily in the liver as shown in Fig 1.

The first step, ethanol to acetaldehyde, occurs in the liver. The second step occurs primarily in the liver, but other tissues containing acetaldehyde dehydrogenase also participate. The last steps occur in all metabolically active tissues. The enzymes of the smooth endoplastic reticulum in the liver can also metabolize alcohol to acetaldehyde. Induction of these enzymes may explain the increased resistance of sober alcoholics to barbiturates.[18,19]

The difficult question here is the relative importance of the various enzymes for metabolizing alcohol. While the induction of the hepatic microsomal enzyme oxidizing system forms an attractive hypothesis for explaining tolerance and some biochemical changes, it is by no means clear that this pathway is significant in vivo. Hawkins and Kalant have written an excellent and thorough discussion of this and of the effect of ethanol on intermediary metabolism.[27]

The average drinker can metabolize about two-thirds ounce of 100-proof

1.



whiskey or one 10 oz can of beer per hour. This rate is increased in alcoholics with good livers.[15] Whether or not the rate of metabolism can be increased to aid in the treatment of ethanol intoxication is a controversial topic. At present there is no good catalytic agent available. Since little of the drug is excreted in the urine, diuretics are of no value.

Other Chemical Changes

In the oxidation of ethanol, nicotinamide adenine dinucleotide (NAD) is reduced to $NADH_2$. This increase in the $NADH_2$/NAD ratio leads to several important biochemical changes: (a) Blood lactate is increased leading to acidosis; (b) citric acid cycle activity is decreased; (c) gluconeogenesis is inhibited; and (d) lipogenesis is increased and lipolysis is decreased.[17]

Effects of Alcohol on the Organs

Liver

For a while there was considerable argument about which effects on the liver were due to alcohol itself and which were due to true malnutrition, present in most alcoholics. The following effects are definitely attributable to alcohol. Malnutrition can intensify all of them.

There are essentially four different ways of increasing the fat content of the liver.[17]

1. Increased peripheral mobilization of fat. This seems to be important only in large doses of alcohol.
2. Decreased lipoprotein release from the liver. This is not important as long as the liver is healthy. The lipoprotein released is constant or even increased. In severe alcoholism, however, when the liver is damaged this may be a factor in increasing the fatty content of the liver even further.
3. Decrease in lipolysis. This can be a significant factor in altered metabolism due to alcohol.
4. Endogenously synthesized lipids. Alcohol ingestion does increase the lipogenesis in the liver. These factors can combine to produce a fatty liver resulting from alcohol even when the person is following an adequate diet.

The incidence of cirrhosis in alcoholics is seven times that of the general population. It runs from 12-33%, depending on the study. Thus, cirrhosis has a statistical connection to alcoholism, the exact causal mechanism is unknown. It is believed to follow the development of a fatty liver, which occurs in 96% of alcoholics. In fact, ingestion of seven ounces of 86-proof alcohol daily for four days will increase the fat content of the liver four times, even with an adequate diet.[14] However, the role of malnutrition in development of cirrhosis is extremely important, and many believe it is the most important factor.

The ingestion of alcohol also will cause swelling of the mitochondria with formation of bizarre organelles, increased number of vacuolated bodies around the cannaliculi, and osmophilic granules in Golgi's cells. It will also increase the amount of smooth endoplasmic reticulum in liver cells. This may correlate with the induction of the hepatic microsomal enzyme system.[17]

Kidney

Probably the best known effect of alcohol is the diuresis caused by the inhibition of antidiuretic hormone induced by rising blood levels, thus leading to decreased tubular reabsorption of water. There is, however, no change in renal plasma flow or in the glomerular filtration rate. There is a slight metabolic acidosis in alcohol intoxication, which is compensated by the

increased excretion of ammonia and titratable acids. There is a slight electrolyte imbalance due to increased retention of sodium, potassium, and chloride. Also there is an increased excretion of magnesium. It has been postulated that this is the explanation of the delirium tremens on withdrawal from alcohol. This point is still controversial. Because of the increased plasma levels of lactate, there is a depression of urinary excretion of uric acid, resulting in hyperuricemia. There is as yet no proven toxic effect on the renal tubules due to alcohol, but some clinicians believe it does exist.[23]

Gastrointestinal Tract: Contributing Factors—Preexisting Disease, Food, Tolerance

In concentrations of less than 10%, alcohol will cause an increase in gastric acid secretion. This occurs in two ways. First there is physical stimulation (cephalic phase) of gastric secretion. The second is a more direct stimulation of gastric mucosa. It is not known if this effect is mediated by histamine or gastrin, but it is not blocked by atropine and should be avoided by peptic ulcer patients.

Alcohol in more concentrated form (40%), even with food in the stomach will cause irritation of the gastric mucosa and hyperemia. It will cause pylorospasm and decreased gastric motility resulting in prolonged emtying time. With enough insult, alcohol will result in bleeding and vomiting. Chronic intake of alcohol will result in chronic atrophic gastritis and achlorhydria. The atrophic gastritis may account for the decreased vitamin B_{12} absorption due to loss of the intrinsic factor. Alcohol also causes malabsorption. This compounds nutritional problems. Changes in bowel habits are probably due to diet or mixers.[10] Intoxicating doses can affect colon motility. Alcohol is an etiological factor in pancreatitis.

Cardiovascular

Studies have shown that ethanol is not metabolized by the heart. There is, however, a slight accumulation of lipid due to some of the metabolic mechanisms discussed earlier.

The primary effect of alcohol, vasodilatation, causes a warm flushed feeling and can be dangerous when core heat needs to be preserved. The effect on the coronary vessels seems to be somewhat in doubt, but there is no significant dilatation. Therefore, the use of alcohol as a treatment of angina is based largely on its analgesic effects on the central nervous system (CNS). Effects on the heart rate are secondary to vasodilatation. The decrease in resistance is followed by reflex sympathetic activation and thus a fall in blood pressure is avoided. Heart rate and stroke volume may increase. Some evidence indicates that alcohol may exert a negative inotropic effect with a resultant depressed performance at high dosages. Bradycardia may follow excessively large doses, but lethal doses cause respiratory collapse before any effect on the heart. Respiratory collapse is due to the known depressant effect on the respiratory center. There have been cases of heart failure and pericardial effusion with beer drinking, but this is caused by the presence of cobalt in the beer. Palpitation and extrasystoles sometimes occur. In addition, there are some T-wave abnormalities. Some clinicians believe there is a definite connection between alcohol and congestive heart failure. Some fibrous thickening also may occur.

Sexual Function

There are many people who believe that

alcohol stimulates sexual activity. This may be an indirect effect of mild intoxication with subsequent loss of inhibitions. (Gantt, 1952) Sexual performance, however, is also depressed as best described by Shakespeare:

Macduff: What three things doth drink especially provoke?

Porter: Marry, sir, nose-painting, sleep, and urine.
Lechery, sir,
it provokes and unprovokes;
it provokes the desire, but
it takes away the performance.
Macbeth, Act II, Scene 3

Central Nervous System

Alcohol is a CNS depressant. The only explanation for the stimulating feeling it sometimes gives is the fact that in low doses, alcohol can cause euphoria through inhibition of higher centers. Also, the heart rate is sometimes increased, and this may be interpreted as stimulation. The fact remains that alcohol's primary effect on the brain is depressive. This depressive action occurs at the level of the reticular activating system, unleashing the cortex, and is similar to the action of the barbiturates and general anesthetics. There is one important distinction. The range between anesthesia (.4-.5%) and a lethal depression of respiratory centers (.5-.6%) with alcohol is very small, and therefore very dangerous. Small doses of alcohol have a sedative effect and tend to relieve anxiety. Larger doses impair the function of higher centers, leading to ataxia, faulty judgment, impaired psychomotor ability, and uninhibited behavior.

Alcohol acts as a depolarizing agent on individual nerves. It can cause a slow reduction in the membrane potential, bringing about a change in the excitability and conductivity of the neuron. This may be involved in some CNS manifestations discussed in withdrawal. Alcohol can temporarily affect the baroreceptors and chemoreceptors in the carotid sinus, leading to a rise in blood pressure.

There does not seem to be any clearcut effect on the eyes in terms of function as yet; however, alcohol will decrease binocular fusion some and does cause nystagmus.

2.

Blood Level	Observations	Bogen's Description[3]
< .03%	Little effect	Dull and dignified
.05-.06%	Euphoria, minor motor disturbances	Dashing and debonair
.08-.10%	Impaired driving ability some EEG changes	Dangerous and devilish
.15-.2%	Gross motor incoordination	Dizzy and disturbing
.3-.4%	Amnesia, stupor, decreased respiration	Disoriented and disgusting
.4-.5%	Coma, Cheyne-Stokes breathing, flush	Dead drunk
.5-.6%	Vascular and respiratory collapse	Most likely dead

There seems to be no effect on hearing. Alcohol will increase taste acuity and decrease olfactory acuity.[22] It decreases sensation of cold and increases the pain threshold. Alcohol will inhibit the decrease in muscle work capacity due to fatigue, although in chronic use it increases muscle tenderness, causes edema, and some electromyographic muscle abnormalities.

At low blood levels, alcohol increases alpha wave activity. At higher levels, it will decrease the frequency of the alpha wave, and some slow waves (4-8/sec) begin to appear. At narcotic doses the slow wave percentage will increase.

The only CNS abnormality on chronic use of alcohol is an increase in ventricular volume due to degenerative changes[22] and a slight cortical deterioration. The primary effect is in the central regions of the brain. There is also some degeneration of Purkinje's cells in the cerebellar cortex.[13]

Psychological

These effects are difficult to pinpoint with any meaning and accuracy. Part of the problem is the long, fruitless search for the prototypic alcoholic personality with long descriptions of what type of personality is prone to alcoholism. This type doesn't exist.[21]

One of the primary changes that alcohol produces is an alteration of affect. That is, it produces a subjective change in the subject's emotions about himself and his environment. Persons who have disordered or disturbed affects can have positive changes in their affective state during alcohol consumption. Generally, it may be said that the affective change in alcoholics is less than in light drinkers.

Alcohol will decrease ability to learn and decrease memory. This also seems to be state dependent. What one learns drunk, one remembers better when drunk again than when sober; what one learns when sober, one remembers better when sober again than when drunk.[29] In general, there is a decrease in cognitive functioning, a loss in the speed and accuracy of associations, arithmetic computation, reading, and estimation of elapsed time. There is a loss in power in concentrate and the ability to abstract. It is interesting, however, that memory is impaired out of proportion to the other functions. There is a loss of recent memory, and this may progress to a retrograde amnesia.[28]

Toxicity, Addiction, Tolerance and Withdrawal

The acute toxicity of ethanol is a factor both of blood level and its rate and direction of change. A person can be intoxicated on a *rising* level of 80/100 ml, whereas the same individual may be sober at a level of 110 mg/100 ml, if the blood concentration is *falling*. It is also true that different people show varying levels of intoxication for identical blood levels. These effects may be due to some CNS adaption.[22]

In general, Fig 2 describes the clinical observations correlated with blood alcohol concentrations.

A blood level of 50% is achieved by drinking 800-900 ml of 100-proof whiskey in five minutes.

Chronic toxicity of ethanol has been mentioned in the physiological section. Suffice to add that adverse effects have also been observed due to the other ingredients in alcoholic beverages. A few examples are absinthe poisoning, cardiomyopathy secondary to cobalt added to beer, and hemochromatosis from the excess iron in some wines.

Many other conditions common among

chronic alcoholics, eg lung abscess and vitamin deficiency states, are not directly attributable to the drug itself and are therefore somewhat beyond the scope of this article.

Ethanol is an addicting drug; that is, it is associated with both psychological and physical dependence. Tolerance with subsequent need to increase dosage develops, and specific withdrawal syndromes are recognized.[13]

Several theories as to the mechanism by which tolerance develops have been postulated. Most have been discredited. There is some evidence that the liver increases its ability to metabolize alcohol, (Kater, 1969) and that tolerance actually develops at the tissue level.[26]

Withdrawal symptoms can be precipitated by reducing CNS levels of alcohol below a certain level. It does not have to be reduced to zero. Withdrawal is characterized by tremor, weakness, perspiration, gastrointestinal disturbances, insomnia, hyperreflexia, fever, visual hallucinations, and convulsions. It can be fatal. Its severity is related to the duration of the drinking spree and the amount consumed. Alcohol causes some electrolyte disturbances at the cell membrane level which may be responsible for these effects. The first part of withdrawal is tremor (the shakes). They will normally reach a peak in 24 hours. They will generally peak in the morning after the abstinence of sleep. The second phase of withdrawal is weakness, anorexia, and insomnia. This can be accompanied by epileptiform seizures. They can be followed by hallucinations. The last state is delirium tremens. This consists of intense psychomotor activity and overactivity of the autonomic nervous system with sweating, tachycardia, etc. At this stage, the mortality rate is 15%.

Medical Uses

Alcoholic beverages have been used medicinally since their discovery. The initial Arabic distillates were intended for medical therapy, and there is hardly a malady of man that at some time has not been treated with spirits. This includes such varied conditions as heart and renal disease, fainting, arthritis, menstrual disorders, colds, and snakebite. Most of these regimens have been discarded, but a few legitimate therapeutic uses remain.

1. Mild relaxation: A blood level of .04-.05% ethanol can help relieve the strains and tensions of everyday life. This is best achieved by 5 oz of table wine or two beers taken with food. Taken this way, alcohol's nutritional, physiological, and psychological values are at a maximum and its abuse potential is at a minimum. Caution must be exercised, however, as alcohol cannot solve emotional problems, and many alcoholics have started drinking to "calm their nerves."[16]

2. Muscle relaxation: Ethanol provides both mild analgesia and muscle relaxing properties. It can be useful in those conditions where muscle spasm is causing pain. Three to 6 oz of whiskey can accomplish this purpose.[16] Ethanol drip is also used in obstetrics to treat premature labor. A blood level of .09-.16% is maintained to relax uterine contractions.[8]

3. Antisepsis: Concentrations of ethanol greater than 70% are useful for topical antisepsis of the skin. It is not the best antiseptic available and rarely ever is used for surgical preparation, but it is convenient and useful for antisepsis prior to venepuncture of intramuscular injection.

4. Poisoning: Ethyl alcohol is the treatment of choice for acute methanol poisoning.

5. Fever: Alcohol sponge baths have

been employed for years to help eliminate excess heat.

6. Nerve blocks: Alcohol injected near nerves can cause degeneration. This has been used in the management of chronic pain.

Interaction Between Alcohol and Other Drugs

1. With sedative-hypnotics: In general all these agents have additive actions with ethanol. The lethal combination of alcohol with the barbiturates is classical. Sleeping and anethesia (Pentothal) times are also increased.

Chloral hydrate in alcohol, a "Mickey Finn," is a potent hypnotic. Paraldehyde, glutethimide and Noludar have their depressant effects enhanced by ethanol. It also lowers the toxicity threshold for bromide.[7]

2. With major tranquilizers: The phenothiazines potentiate the hypnotic, decreased performance, and intoxicating effects of alcohol. At the same time the tranquilizing effect of the former is decreased.[7] The rauwolfia alkaloids (reserpine) behave similarly,[12] as do the butyrophenones.[7]

3. With minor tranquilizers: The evidence of synergism with this group (meprobamate, benzodiazepine, diphenylmethane) is not as evident as with the more potent depressants, but an additive effect seems to exist.[10]

4. With narcotics: All opiates, natural or synthetic, have additive hypnotic, sedative, amnesiac and toxic effects. The more potent the narcotic, the more noticeable the synergism, ie, morphine reacts strongly with ethanol whereas propoxyphene (Darvon) has little additive action.

5. With CNS stimulants: These agents are not antagonistic to the major depressant actions of ethanol. In fact, MAO inhibitors often can increase them as well as have more side effects of their own. There is conflicting evidence whether amphetamines improve mental performance or not, but they do nothing for the lost motor function and coordination. Despite years of folk practice, there is little to support using xanthemes (coffee, tea) to treat ethanol intoxication. What one produces is a wide-awake drunk.

Ethanol does antagonize the hypertension and arrhythmagenic effects of catecholamines.

6. With methanol: Both ethyl and methyl alcohol are metabolized by alcohol-dehydrogenase. When ingested together, a state of competitive inhibition exists. Ethanol in higher concentrations will prevent the degredation of methanol to formaldehyde, its toxic end-product. Thus, ethanol is employed as therapy for methanol poisoning.

7. With disulfiram (Antabuse): Disulfiram blocks the complete catabolism of ethyl alcohol, causing a build-up of acetaldehyde. This in turn produces uncomfortable flushing, headaches, and shortness of breath.

Chronic Alcoholism

Chronic alcoholism is one of the most prevalent public health problems in the United States today; and in spite of years of investigation and volumes of publication, it remains one of the least understood.

There is no generally accepted definition of the condition or any reliable data as to the number of people involved. There is no known cause and no simple, effective treatment, much less cure.[16]

Regardless of this rather pessimistic outlook, a few generalizations can be

made. The AMA's Committee on Alcoholism has as good a definition as is available:

> "Alcoholism is an illness characterized by preoccupation with alcohol and loss of control over its consumption such as to lead usually to intoxication if drinking is begun; by chronicity; by progression; and by tendency toward relapse. It is typically associated with phyical disability and impaired emotional, occupational and/or social adjustments as a direct consequence of persistent and excessive use of alcohol."

They paraphrase this as a drug dependency state that interferes with health and adaptation to one's environment. Consumption of large amounts and even frequent intoxication are not as important as *control*. Physical deterioration, although common, is not a requirement. Alcoholism occurs in both sexes and in all socioeconomic strata from Skid Row to Park Avenue.[1]

Estimates of the number of chronic alcoholics in this country range from *5-10 million*. This disease adversely affects from 15-25% of the families in the United States. Yet, its onset may be so insidious as to delay detection for a considerable time.

Every treatment modality known has at one time been used in chronic alcoholism, from electric shock to LSD to psychotherapy. Variable success has been reported, but no particular regimen has universal or even general acceptance.

As in every drug-dependence state, the psychic structure of the individual is more important than the chemical agent. Many people have tried to define an "alcoholic personality," that is, a set of behavior patterns and personality characteristics that would predispose an individual to chronic alcoholism. None of these efforts has been successful. An archetypal "alcoholic personality" does not exist.[16]

In summary, chronic alcoholism is a complex type of drug dependence of wide prevalence about which little is actually known. It is as much an enigma today as the "finely divided spirits" were to the Arabians in the Ninth Century.

A copy of the author's reference list is available on request from *Texas Medicine*, 1801 N Lamar Blvd, Austin, Tex 78701.

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Cocaine

Terrence Clark

Cocaine is an alkaloid contained in the tea-like leaves of the shrub, *Erythroxylon coca*, indigenous to South America, Australia, India, and Africa.

In 16th Century Peru, the chewing of coca leaves was a restricted privilege of Incan aristocracy who used it in religious and official ceremonies. The 10 million peasants did not have the legal right to chew the leaf. Following Pizarro's conquest of Peru, the Spaniards gave coca leaves freely to the Indians. Under its stimulatory effects, they worked harder, longer, and with less food.[15] Uncertainty exists concerning the effect this widespread use of cocaine had on the 16th Century Peruvian peasant population. Several authors believe that the drug induced chronic suppression of hunger and fatigue, thus playing a significant role in the reduction of the native population from 10 million to 2 million within 50 years.[6,15,16]

Scientific curiosity about cocaine was aroused by the writings of the Italian physician Mantegazza. In 1859, following a stay among Peruvian natives, he published a paper praising coca leaf as a great new weapon against disease. Later in 1859, a Viennese biochemist, Niemann, isolated the active ingredient, cocaine, from the leaf.

In 1876, Stockwell, writing in the *Boston Medical and Surgical Journal*, proclaimed that Americans could face their second century of independence with the conveniently vigorous effects of a substance which never depressed, had no recoil, and eliminated fatigue.[13]

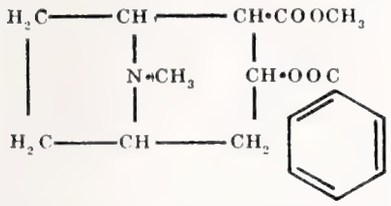
In 1884, the young physician Freud praised cocaine in a lengthy work, "Veber Coca." He extolled it as a stimulant; noted its use in the treatment of melancholia and neurasthenia; and claimed that it was so powerful a specific antidote to morphine addiction as well as to alcoholism that "inebriate asylums can be entirely dispensed with."[13] In 1885, Freud began cocaine treatment of a dear friend, von Fleischl, a brilliant physicist who was addicted to morphine. Von Fleischl died in 1891, a deteriorated victim of cocainism.[13]

In 1884, Koller conceived the idea of applying cocaine topically to the cornea and conjunctiva, making the performance of delicate ophthalmological procedures possible with the convenience of local anesthesia. This was the one clinical use of cocaine which would endure.[9]

In 1887, Erlenmeyer, in an article based on a series of tests with morphine addicts, attacked the value of cocaine as a useful drug in therapy for addiction. Freud was silent.[13] Others, however, continued to believe in cocaine as a chemical of great therapeutic use. Notable among remaining believers was Hammond, a dominant American medical personality of his day. In 1887, he presented a strong defense of cocaine at the annual session of the Medical Society of Virginia. Yet, while Hammond proclaimed cocaine's virtues, another American, Halsted, became seriously habituated to the drug in the course of perfecting it as a local anesthetic.[13]

Interestingly, literature of the late 19th Century accurately reflected the evolving cocaine issue. Sherlock Holmes "had nary a vice except for the occasional use of cocaine."[13] The detective habitually used the alkaloid for its stimulatory effects until it became difficult for him to delineate the real from the imagined. According to Doyle's writings, Holmes was able to part with the habit and became effective once again in his work.

Cocaine was imported from Java to meet the rising demand for the drug in the US for medical uses and for use of alkaloid-free ingredients for certain carbonated bev-



erages. Today, Java is the world's largest producer of coca leaves.[5,15]

By the end of the 19th Century, cocaine's only clinical use as a local anesthetic was appreciated, and its prohibitive toxicity for other uses was universally acknowledged. During the first part of the 20th Century, a chemical synthesis for cocaine was worked out. Its mechanism of action has been satisfactorily unraveled. However, it has been largely replaced by less toxic analogues in anesthesia, and it has been increasingly abused as a central nervous system (CNS) stimulant.

Physical Properties, Chemistry, Pharmacological Actions

Pure cocaine is a colorless to white crystal or powder, is odorless, decomposes upon standing, and has a melting point of 98 C. Its saturated solution is alkaline.

Chemically, cocaine (methylbenzoylepgonine) is an ester of benzoic acid and a nitrogenous base (epgonine) which differs from its nucleus, tropan, by two hydrogen atoms. There is a close chemical relationship between the nuclei of cocaine (tropan) and that of atropine (tropine), differing only in the radical at position two.

Atropine and cocaine are tertiary aminoesters of aromatic acids. Many tertiary aminoesters of organic acids have both local anesthetic and antimuscarinic properties. However, atropine has only mild local anesthetic action and cocaine has little or no antimuscarinic action.

Cocaine's most clinically applicable pharmacological action is the blocking of nerve conduction upon local application. The most notable systemic effect is its CNS stimulation. Cocaine stimulates the CNS from above, downward. Some investigators feel that this stimulation is actually a depression of inhibitory neurons. Cortical stimulation, marked by garrulousness, restlessness, and excitement, is noted first. There may be increased mental powers and increased capacity to perform muscular work, which probably is due to a lessened sense of fatigue. Stimulation of the lower motor centers of the brain may lead to convulsions. Cord stimulation produces augmented cord reflexes progressing to clonic tonic convulsions. Respiratory rate increases while depth of respiration decreases. Vasomotor stimulation elevates blood pressure and stimulation of the vomiting center may cause emesis.

Central stimulation is soon followed by depression. The higher centers are the first to be depressed, and this may occur when the lower portions of the cerebrospinal axis are still in the stage of excitation. With high doses the vital medullary centers are eventually depressed, resulting in apnea and death.

Cocaine has sympathomimetic ability, potentiating the actions of epinephrine and norepinephrine. This effect is probably exerted by inhibiting the reuptake of these neurohumors by nerve terminals.

Cocaine is capable of affecting the cardiovascular system by virtue of central stimulation and peripheral potentiation of catecholamines. Small dosages may act on the central vagal nucleus causing a transitory bradycardia. Central vasomotor stimulation elevates blood pressure. Peripheral potentiation of catecholamines results in vasoconstriction and hypertension. Large intravenous dosages may, in some instances, exert a direct cardiotoxic action which can result in immediate death.

Cocaine tends to elevate body temperature via three mechanisms. Increased muscle activity causes augmented heat production. Vasoconstriction causes diminished heat loss. There also is a direct

action upon the CNS thermostat, resetting it to a higher level.

Absorption, Fate, Excretion, Detection

Cocaine is absorbed from all sites of application. Its local vasoconstrictive action limits the rate of absorption. Despite this fact, the rate of absorption may easily exceed the rate of detoxification and excretion. Taken orally, cocaine is largely hydrolyzed in the gastrointestinal tract and rendered ineffective.

Detoxification of cocaine occurs principally within the liver, although some may be excreted unchanged in the urine. It has been estimated that the liver can detoxify one minimal lethal dose (1.2 gm) per hour.

Recently, Jansen and Bickers[12] described a rapid, inexpensive method for simultaneously assaying cocaine, narcotics, quinine, and propoxyphene using thin-layer chromatography of urine.

Uses and Abuses of Cocaine

At present, cocaine is rarely used clinically. Formerly it was widely employed as a topical anesthetic in ophthalmological procedures. As a result of toxic properties, other agents are currently favored. Cocaine is still used in some oral-pharyngeal surgical procedures.

Cocaine is used for its CNS stimulatory properties in three principal modes: leaf chewing, insufflation, and intravenous injection.

There are approximately 10 million leaf chewers in the world today,[5,18] principally in South America. In Bolivia, Peru, and Northern Argentina, leaf may be obtained in general markets. Eight and one-half million kilos of coca leaf are consumed in Peru and Bolivia annually. The daily amount of dried coca leaves chewed varies between 10 and 100 gm per person. An average of 180 mg is absorbed.[11] Leaves are vigorously chewed with saliva acting as the extracting agent. Lime (CaOH), usually in the form of alkaline plant ash, is applied to the coca leaves prior to placing them into the mouth. This addition slightly augments the percentage of extraction. Users chew two to three times per day, especially prior to physical activity. Two to three hours are required for the chewing of each coca bolus. Stimulation usually begins within the half hour.

In contemporary US society, the two most used routes of administration are insufflation of the powder and intravenous injection. Cocaine, in drug abuse jargon, is referred to as coke, show, Cholly, Charlie, happy dust, gold dust, Corine, Bernice, and flake. Insufflation is by far the more common form of abuse. The effects of such use may persist from one-half to four hours depending upon dosage and purity of the preparation.

Intravenous abuse of cocaine is noted in several patterns. The chronic amphetamine abuser may occasionally inject cocaine in pursuit of its purportedly greater euphorogenesis. An opiate addict may inject cocaine to arouse himself from a lethargic state. The simultaneous injection of an opiate and cocaine is referred to as a "speedball." Of course, persons other than amphetamine or morphine addicts might inject cocaine. However, these individuals generally abuse other drugs as well. Abusers rarely use cocaine primarily. Intravenous methamphetamine is favored because of its lower cost and ready availability. However, when cocaine is employed chronically, it is used in a pattern of "runs" simulating those of the methamphetamine abuser. The user will inject the drug every three to four hours for several days, during which time he may eat little and remain

awake. Such an episode commonly ends whenever the drug supply is exhausted or he is too disorganized or paranoid to continue. Cessation is followed within a few hours by a deep sleep which usually lasts 12 to 18 hours. Upon awakening, abusers are extremely hungry, lethargic, and depressed. The lethargy may persist for many days. Reinitiation of drug use eliminates "withdrawal" symptoms, and also starts a new cycle. Cocaine "addicts" have been reported to use as much as 10 gm in a single day.

During the past year there has been a noticeable increase in the use of cocaine in areas of heavy drug abuse. Dr. George Gay, of the Haight-Ashbury Free Medical Clinic of San Francisco, has stated that this may well be the forerunner of a national increase in cocaine abuse.

Toxicity—Acute and Chronic

Acute toxicity is usually dose-related. The average lethal dose is 1.2 gm, but idiosyncratic reactions to 20 mg administered intravenously have been reported to result in apnea and death. Liver disease prolongs cocaine's effects.

The symptoms of acute cocaine poisoning are mainly referable to the CNS. The patient quickly becomes excited, restless, garrulous, anxious, and confused. Reflexes are enhanced. Headache is common. The pulse becomes rapid, and respiration is irregular. A chill may herald the onset of a sudden rise in temperature. The pupils are dilated and exophthalmos occurs. Nausea, vomiting, and abdominal pain are frequent. Formication may occur. Delirium, Cheyne-Stokes respirations, convulsions, and unconsciousness occur terminally. Death results from respiratory arrest.[2]

Acute cocaine poisoning runs a rapid course. Indeed, there is a form of acute intoxication related to the direct cardiotoxicity of high doses administered intravenously resulting in almost immediate death. The patient often collapses and dies before the physician realizes what has occurred.[2]

Treatment of acute poisoning consists of (1) retarding further absorption, (2) supporting vital functions, (3) controlling seizures.

As noted previously, one rarely encounters a person whose primary drug of abuse is cocaine. More common is occasional cocaine indulgence by the chronic amphetamine abuser, the morphine addict, or by other varied drug abusers. The rare person who chronically uses cocaine over a period of several weeks or months develops a toxic psychosis simulating paranoid schizophrenia and indistinguishable from "amphetamine psychosis." Psychological dependence on the drug is characteristic. Paranoid ideation in a setting of a clear sensorium is most common. Loosening of associations and changes in affect are notable. Visual, auditory, and tactile hallucinations may occur. Formication is often present.[2]

The chronic nasal inhalation of cocaine may lead to mucosal irritation, inflammation, necrosis, and sloughing secondary to the localized vasoconstriction.

In treatment of the chronic abuser, those who chronically use CNS stimulants (cocaine and/or amphetamine) are approached similarly, whereas barbiturate and opiate addicts who occasionally use cocaine require withdrawal from their opiate or sedative hypnotic as primary therapy.

According to Chambers[1] the treatment of chronic CNS stimulant abusers is best approached in three distinct phases: (1) initial detoxification phase, (2) the initial

abstinence phase, and (3) the long-term aftercare phase.

The initial detoxification phase of treatment is basically a medical problem, and should be approached on an inpatient basis. While there is apparently no harm in the abrupt withdrawal of CNS stimulants, the psychiatric reactions which reportedly range from acute anxiety to full blown psychoses may require medication, eg, sedatives or phenothiazines. Concurrent medical problems such as hepatitis, skin problems, and malnutrition, usually associated with intravenous abuse, also may require attention.

Excluding those cases which require extensive care for medical problems, the initial detoxification phase should be completed within one week. This initial phase may be characterized by sleepiness, social withdrawal, severe depression with suicidal ideation, and neurasthenia.

Even though there is evidence that manifestations of primary withdrawal distress may continue for several weeks, it is recommended that the second phase of treatment, initial abstinence, be conducted on an ambulatory basis. During this phase the patient should receive frequent supportive sessions as he explores his intrapersonal and interpersonal capacities without the use of drugs. These explorations will probably occupy several months.

Once the patient has demonstrated some degree of continuity in conventional functioning, the long-term aftercare phase of treatment is begun. This appears to be managed most appropriately in regular but somewhat less frequent reenforcing group sessions.

Leaf Chewing

Some uncertainty exists concerning the toxicity of chronic coca leaf chewing. Several obstacles to study are encountered, including language and cultural barriers. Second, it is difficult to attribute ill health to drug ingestion in an area where disease is so prevalent. Third, the incidence of chewers among the peasant field laborers, the primary group of users, is as high as 60 to 80%, thus making controls scarce.

The impression of most authors who have visited areas where leaf chewing is endemic is that chewers were in poorer health than nonchewers.[6,8,10,13,15,17]

Buck et al,[8] found that coca chewers have an inferior nutritional status, greater severity of hookworm anemia, inferior personal hygiene, and higher absenteeism. These conditions are believed to result from the chronic suppression of the sensations of hunger and fatigue.

Hammer and Villegas,[11] in a series of 46 biopsies from the buccal mucosa of Bolivian Indians who had chewed a coca leaf/lime mixture for a variable number of years, encountered histologic leukoedema as a prominent finding on the side in which the chew was held. No clinical evidence was found to support the idea that leukoedema may be a premalignant condition, and none of the patients displayed buccal cancer.

A study of the psychological effects of chronic chewing, by Goddard, et al,[10] demonstrated no social isolation between chewers and nonchewers, and no significant psychological characteristics to distinguish the two groups. The authors suggest that coca chewing in the Andean zone is much the same as tobacco use, betel nut chewing, and alcohol consumption in societies where practices such as these are the norm.

A copy of the author's reference list is available on request from *Texas Medicine*, 1801 N Lamar Blvd, Austin, Tex 78701.

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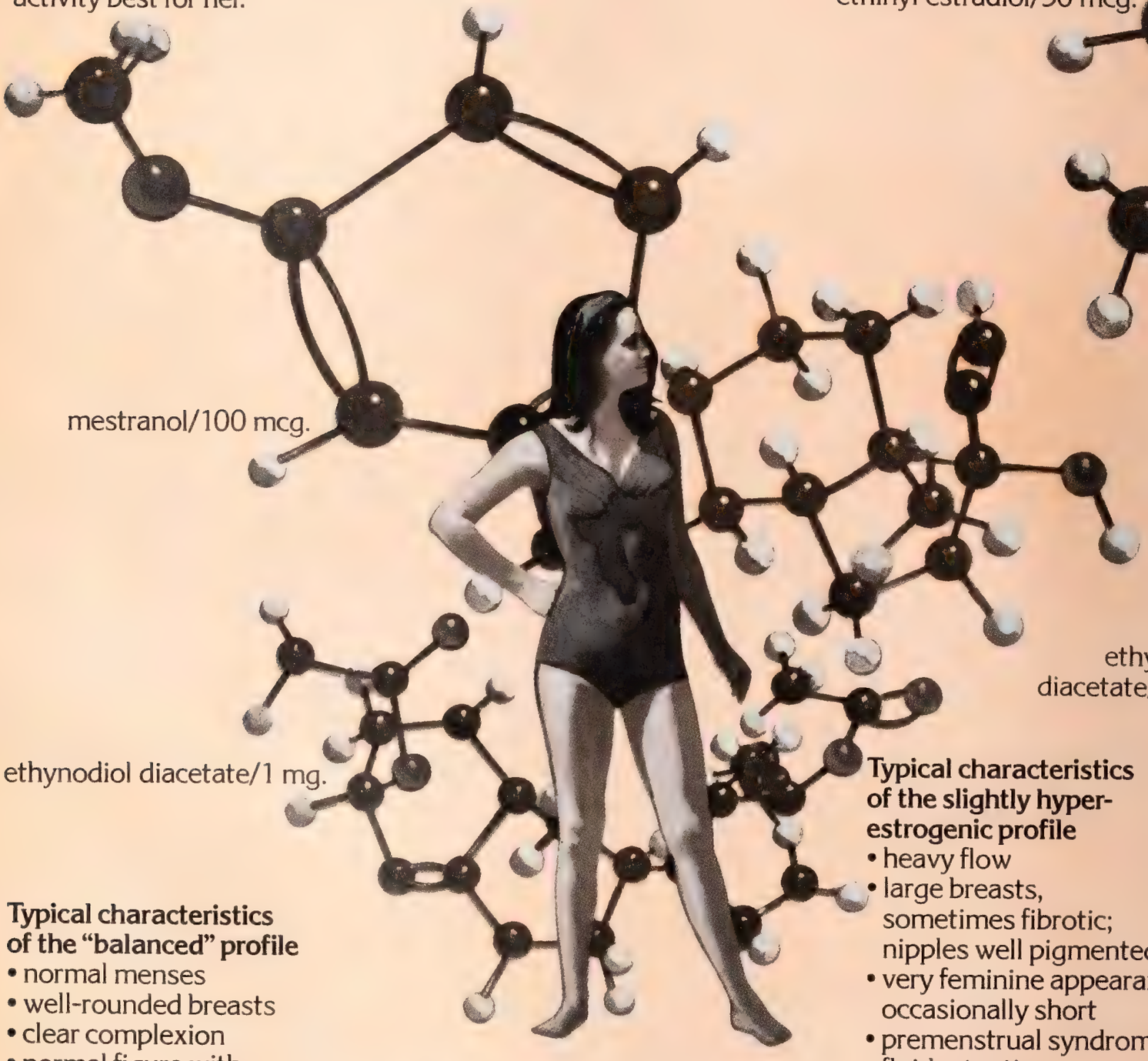

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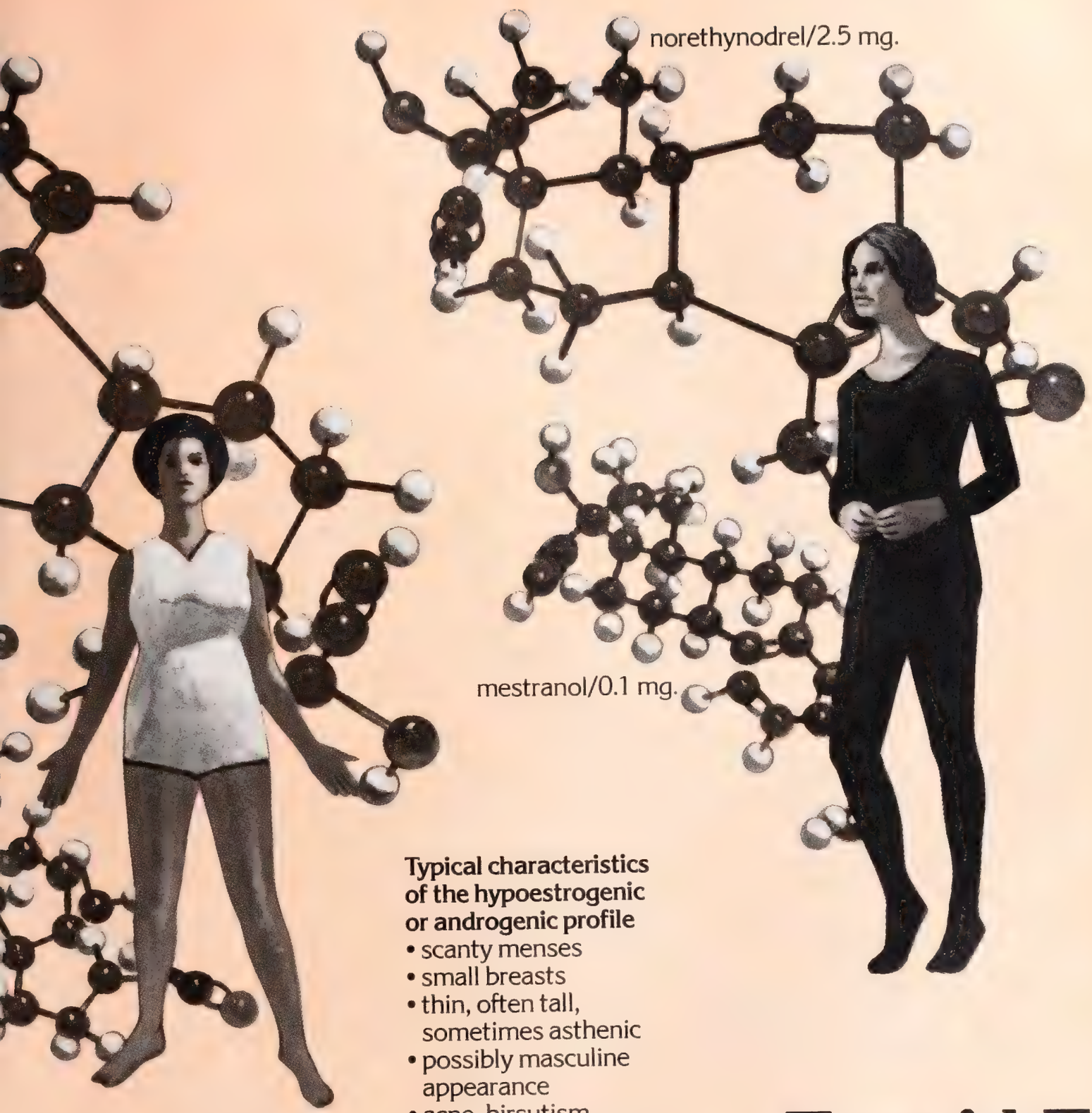

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Special note—Oral contraceptives have been marketed in the United States since 1960. Reported pregnancy rates vary from product to product. The effectiveness of the sequential products appears to be somewhat lower than that of the combination products. Both types provide almost completely effective contraception.

An increased risk of thromboembolic disease associated with the use of hormonal contraceptives has now been shown in studies conducted in both Great Britain and the United States. Other risks, such as those of elevated blood pressure, liver disease and reduced tolerance to carbohydrates, have not been quantitated with precision.

Long-term administration of both natural and synthetic estrogens in subprimate animal species in multiples of the human dose increases the frequency of some animal carcinomas. These data cannot be transposed directly to man. The possible carcinogenicity due to the estrogens can be neither affirmed nor refuted at this time. Close clinical surveillance of all women taking oral contraceptives must be continued.

Indication—Ovulen and Demulen are indicated for oral contraception.

Contraindications—Patients with thrombophlebitis, thromboembolic disorders, cerebral apoplexy or a past history of these conditions, markedly impaired liver function, known or suspected carcinoma of the breast, known or suspected estrogen-dependent neoplasia and undiagnosed abnormal genital bleeding.

Warnings—The physician should be alert to the earliest manifestations of thrombotic disorders (thrombophlebitis, cerebrovascular disorders, pulmonary embolism and retinal thrombosis). Should any of these occur or be suspected the drug should be discontinued immediately.

Retrospective studies of morbidity and mortality conducted in Great Britain and studies of morbidity in the United States have shown a statistically significant association between thrombophlebitis, pulmonary embolism, and cerebral thrombosis and embolism and the use of oral contraceptives. There have been three principal studies in Britain[1-3] leading to this conclusion, and one[4] in this country. The estimate of the relative risk of thromboembolism in the study by Vessey and Doll[3] was about sevenfold, while Sartwell and associates[4] in the United States found a relative risk of 4.4, meaning that the users are several times as likely to undergo thromboembolic disease without evident cause as nonusers. The American study also indicated that the risk did not persist after discontinuation of administration and that it was not enhanced by long-continued administration. The American study was not designed to evaluate a difference between products. However, the study suggested that there might be an increased risk of thromboembolic disease in users of sequential products. This risk cannot be quantitated, and further studies to confirm this finding are desirable.

Discontinue medication pending examination if there is sudden partial or complete loss of vision, or if there is a sudden onset of proptosis, diplopia or migraine. If examination reveals papilledema or retinal vascular lesions medication should be withdrawn.

Since the safety of Ovulen and Demulen in pregnancy has not been demonstrated, it is recommended that for any patient who has missed two consecutive periods pregnancy should be ruled out before continuing the contraceptive regimen. If the patient has not adhered to the prescribed schedule the possibility of pregnancy should be considered at the time of the first missed period.

A small fraction of the hormonal agents in oral contraceptives has been identified in the milk of mothers receiving these drugs. The long-range effect to the nursing infant cannot be determined at this time.

Precautions—The pretreatment and periodic physical examinations should include special reference to the breasts and pelvic organs, including a Papanicolaou smear since estrogens have been known to produce tumors, some of them malignant, in five species of subprimate animals. Endocrine and possibly liver function tests may be affected by treatment with Ovulen or Demulen. Therefore, if such tests are abnormal in a patient taking Ovulen or Demulen, it is recommended that they be repeated after the drug has been withdrawn for two months. Under the influence of progestogen-estrogen preparations pre-existing uterine fibromyomas may increase in size. Because these agents may cause some degree of fluid retention, conditions which might be influenced by this factor, such as epilepsy, migraine, asthma, cardiac or renal dysfunction, require careful observation. In breakthrough bleeding, and in all cases of irregular bleeding per vaginam, nonfunctional causes should be borne in mind. In undiagnosed bleeding per vaginam adequate diagnostic measures are indicated. Patients with a history of psychic depression should be carefully observed and the drug discontinued if the depression recurs to a serious degree. Any possible influence of prolonged Ovulen or Demulen therapy on pituitary, ovarian, adrenal, hepatic or uterine function awaits further study. A decrease in glucose tolerance has been observed in a significant percentage of patients on oral contraceptives. The mechanism of this decrease is obscure. For this reason, diabetic patients should be carefully observed while receiving Ovulen or Demulen therapy. The age of the patient constitutes no absolute limiting factor, although treatment with Ovulen or Demulen may mask the onset of the climacteric. The pathologist should be advised of Ovulen or Demulen therapy when relevant specimens are submitted. Susceptible women may experience an increase in blood pressure following administration of contraceptive steroids.

Adverse reactions observed in patients receiving oral contraceptives—A statistically significant association has been demonstrated between use of oral contraceptives and the following serious adverse reactions: thrombophlebitis, pulmonary embolism and cerebral thrombosis.

Although available evidence is suggestive of an association, such a relationship has been neither confirmed nor refuted for the following serious adverse reactions: neuro-ocular lesions, e.g., retinal thrombosis and optic neuritis.

The following adverse reactions are known to occur in patients receiving oral contraceptives: nausea, vomiting, gastrointestinal symptoms (such as abdominal cramps and bloating), breakthrough bleeding, spotting, change in menstrual flow, amenorrhea during and after treatment, edema, chloasma or melasma, breast changes (tenderness, enlargement and secretion), change in weight (increase or decrease), changes in cervical erosion and cervical secretions, suppression of lactation when given immediately post partum, cholestatic jaundice, migraine, rash (allergic), rise in blood pressure in susceptible individuals and mental depression.

Although the following adverse reactions have been reported in users of oral contraceptives, an association has been neither confirmed nor refuted: anovulation post treatment, premenstrual-like syndrome, changes in libido, changes in appetite, cystitis-like syndrome, headache, nervousness, dizziness, fatigue, backache, hirsutism, loss of scalp hair, erythema multiforme, erythema nodosum, hemorrhagic eruption and itching.

The following laboratory results may be altered by the use of oral contraceptives: hepatic function: increased sulfobromophthalein retention and other tests; coagulation tests: increase in prothrombin, Factors VII, VIII, IX and X; thyroid function: increase in PBI and butanol extractable protein bound iodine, and decrease in T^3 uptake values; metyrapone test and pregnanediol determination.

References: **1.** Royal College of General Practitioners: Oral Contraception and Thrombo-Embolic Disease, J. Coll. Gen. Pract. *13*:267-279 (May) 1967. **2.** Inman, W. H. W., and Vessey, M. P.: Investigation of Deaths from Pulmonary, Coronary, and Cerebral Thrombosis and Embolism in Women of Child-Bearing Age, Brit. Med. J. *2*:193-199 (April 27) 1968. **3.** Vessey, M. P., and Doll, R.: Investigation of Relation Between Use of Oral Contraceptives and Thromboembolic Disease. A Further Report, Brit. Med. J. *2*:651-657 (June 14) 1969. **4.** Sartwell, P. E.; Masi, A. T.; Arthes, F. G.; Greene, G. R., and Smith, H. E.: Thromboembolism and Oral Contraceptives: An Epidemiologic Case-Control Study, Amer. J. Epidem. *90*:365-380 (Nov.) 1969.

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Where "The Pill" Began

The benzodiazepines

John D. Uphold

In a short ten years, the compounds of the benzodiazepine class have gained a place among the most commonly prescribed drugs in medical practice. This relatively new class of compounds was introduced in 1960 when chlordiazepoxide (Librium) was synthesized by Sternbach and Reeder, and was shown to have taming effects in animals and antianxiety effects in humans. Two years later diazepam (Valium), a chemically related but more potent compound, was introduced. Oxazepam (Serax), nitrazepam (Mogadon), and flurazepam (Dalmane) are related drugs that have subsequently been marketed to meet our society's demand for a more effective drug to relieve anxiety.

Pharmacology

Chlordiazepoxide and diazepam are colorless crystalline compounds. The former is highly soluble in water while the latter is insoluble. Both drugs are available for parenteral use, but chlordiazepoxide is highly unstable in solution and must be made up fresh for each use. After an oral dose the drugs will appear in plasma within 30 minutes with peak levels at two to four hours. Effects from an intramuscular dose will be seen in 15 to 30 minutes, and as early as one to three minutes after an intravenous dose. Both drugs readily cross the placental barrier and in concentrations approximately equal to the maternal circulation.[24,39]

Chlordiazepoxide has a half-life of 24 hours and is presumably metabolized by the liver and then excreted in the urine. One to two percent appears in unchanged form, and 3-6% as the conjugate. Two breakdown products, a lactam and a demethylated derivative, are pharmacologically active. Excretion is slow during several days after the last dose.

Diazepam demonstrates a biphasic excretion curve. The first portion has a half-life of seven to ten hours while the remainder is excreted slowly (half-life of two to eight days). About 70% of the metabolites appear in the urine. After demethylation and hydroxylation, one of these metabolites is oxazepam and is present in the urine in an amount about equal to one-third of the initial dose of diazepam.[24,39]

Mechanisms of Action

Although frequently listed as minor tranquilizers, the benzodiazepine compounds are similar in action to the sedative-hypnotic barbiturates. Chlordiazepoxide and diazepam, like the barbiturates, are relatively nonselective in their ability to impair discriminative conditioned responses, in contrast with chlorpromazine which blocks these responses selectively.[24]

In 1960, Randall et al[52] showed that chlordiazepoxide decreased the irritability of rats with septal lesions, and were able to tame vicious monkeys with doses that did not cause sedation.[52] This is thought to result from a depressant action on the limbic system, particularly the amygdala.[49]

Randall et al, in 1960, [52] also demonstrated that this drug has muscle relaxant properties in mice, rats, and cats. This is thought to be through a central mechanism which specifically depresses the polysynaptic reflex arcs.[39,51] Support for this theory is provided by chlordiazepoxide's lack of effect on the muscle's motor nerve and the fact that it does not affect the monosynpatic knee jerk reflex.[49] That this occurs at a spinal level is suggested by the decreased muscle rigidity seen in decerebrate cats given chlordiazepoxide. This indicates a specific interference with interneuronal transmission.

Some of the muscle relaxant properties

are probably caused by supraspinal effects, too. It's been shown that chlordiazepoxide depresses the brain stem reticular facilitory and inhibitory systems[51] and that diazepam in nonhypnotic doses can suppress the "startle response" in patients with cerebral palsy.[42] When given in therapeutic doses, however, the benzodiazepines demonstrate no blockage of ganglionic impulses and no reduction of affective responses.[39] In higher doses cortical depression will occur.

Initial EEG changes after an oral dose show a slowing of mean frequency of the alpha rhythm and an increase in amplitude followed by a decrease in amplitude when drowsiness appears. The sleep patterns resemble those found in patients who are not taking drugs.[39]

Randall et al[52] was also able to demonstrate anticonvulsant properties of chlordiazepoxide. Both chlordiazepoxide and diazepam have been shown to block convulsions in animals induced by strychnine, pentylenetetrazol, and electric convulsive therapy.

Experimental pain studies in man indicate a slight transient analgesic action following intravenous administration of diazepam, but it is difficult to determine if this is due to increased drowsiness or true analgesia. An important finding, however, was that in contrast to the barbiturates, the drug does not increase sensitivity to somatic pain.[16]

Although impossible to demonstrate in animals, diazepam has a reported ability to produce amnesia.[8,47] This effect is only produced when diazepam is administered intravenously, and is probably only antegrade, paralleling the soporific action of the drug.[15] This aspect of the action of chlordiazepoxide has not been studied.

The paucity of effects of the benzodiazepines on the cardiovascular and respiratory systems is one of the significant benefits of these drugs. Randall et al[52] found only slight transient hypotension in dogs given doses of 8 mg/kg body weight of diazepam. A study of "abortion cases" showed negligible effects in patients receiving 50-70 mg of diazepam intravenously.[15] Clinical doses of diazepam cause a slight degree of respiratory depression, but this could be due at least in part to its muscle relaxant properties since doses of 0.66 mg/kg body weight have been shown not to alter the respiratory response to carbon dioxide.[59,60]

The mechanisms of action for chlordiazepoxide and diazepam are presumably similar; however, the occurrence of amnesia with intravenous chlordiazepoxide has not been fully investigated. Comparatively, diazepam is 20 times more effective than chlordiazepoxide in blocking decerebrate rigidity in cats, but only exerts about five times the action of the latter drug on the EEG.[15] Diazepam has ten times the anticonvulsant action of chlordiazepoxide in mice and is about five times more potent in its tranquilizing properties.[18,53]

Side Effects and Complications

In general, the toxicity of the benzodiazepine compounds is relatively low, although somewhat greater than that of meprobamate. The most common side effects are drowsiness and lethargy and the elderly and debilitated seem to be more susceptible. Other less common but toxic side effects are rash, headache, vertigo, nausea, ataxia, increased or decreased libido, and impairment of sexual function. A paradoxical excitement similar to that seen with barbiturates has been appreciated particularly in elderly or senile patients. Jaundice and agranulocytosis have been reported. One interesting side effect seen in both

animals and man is an increase in appetite. Whether this is an independent action of the drug or secondary to another effect, eg, reducing anxiety, has not been evaluated; this action also is seen with meprobamate and barbiturates.[24]

Although no anticholinergic actions have been described, these drugs are contraindicated in cases of glaucoma, prostatic hypertrophy, and benign bladder neck obstruction.[39] These drugs should be used with caution in elderly patients, in those with a propensity for drug abuse, and in combination with barbiturates, phenothiazines, etc. Patients should be warned of the synergistic effects of alcohol ingestion and should be cautioned about driving or performing other tasks which require strict attention.[24]

It has been suggested that diazepam has fewer side effects than chlordiazepoxide,[3] and oxazepam less than diazepam[15] in comparable therapeutic doses. Since the incidence of side effects with any of these drugs is relatively low, a comparison of this type is difficult to substantiate.

Intravenous use of diazepam has resulted in cases of respiratory depression or cardiovascular collapse, but no deaths are attributed to it. Rollason (1968) reported a fit, robust laborer who developed bradycardia, hypotension, sweating, cyanosis, and vomiting after receiving 20 mg of diazepam intravenously.[56]

Physical dependence as evidenced by withdrawal symptoms have been demonstrated with chlordiazepoxide. Ten patients receiving 300-600 mg/day (about ten times the usual dose) for several months were abruptly switched to a placebo, and withdrawal symptoms began to appear within a few days. These included agitation, depression, insomnia, loss of appetite, nausea, and aggravation of the psychopathologic state. Two patients had seizures about a week after discontinuation, which were attributed to the slow excretion of the drug.[30] There has been one case reported of a death attributed to diazepam withdrawal. This was in a patient with dystonia musculorum deformans who died after abrupt termination of diazepam which had been given for 11 days at 60 mg/day.[54]

Initial chromosome studies for chlordiazepoxide revealed no increase in the number of chromosome breaks in vitro or in vivo.[62] However, an in vitro study with diazepam showed a significant increase in the number of breaks as the concentration of the drug was increased.[61] This finding, however, has not been apparent in the in vivo studies. Stenchever (1970) found a significant increase in breaks in only one of 23 patients using diazepam and this reversed when the drug was stopped.[63] Another in vivo study showed no major chromosome changes with chlordiazepoxide (30 mg/day) or diazepam (10-60 mg/day).[11]

Therapeutic Uses

Anxiety and Muscle Relaxant

Chlordiazepoxide, diazepam, and oxazepam have all been used in the treatment of anxiety and psychoneurotic disorders. In double blind and double blind crossover experiments, chlordiazepoxide[32,35,37] and diazepam[9,65,66] have both been shown to significantly decrease anxiety, tension, hyperaggressiveness, fatigue, and associated depressed mood. Chlordiazepoxide has not proved to be very effective in psychotic or personality disorder.[1] One double blind crossover study indicated that diazepam could relieve neurotic anxiety in some cases, and that chlordiazepoxide either could not or had lost its effectiveness.[36] Diazepam has also enjoyed a good reputation in the treatment of musculoskeletal

disorders. A decrease in spasm and pain has been seen in cases arising from trauma and from neurological, orthopedic, and arthritic diseases.[34]

Hypnotic

All of the benzodiazepines can be employed as hypnotics if high enough dosage is used. However, nitrazepam and flurazepam are commonly used for this effect. A 5-10 mg dose of nitrazepam at night compares favorably to 250 mg of glutethimide or 200 mg of sodium amobarbital, but is not associated with the morning hangover seen with the other drugs.[15] Nitrazepam also has a wider margin of safety in cases of overdose with no untoward effects seen even in a case where 400 mg was consumed.[43] Flurazepam has recently been shown to be an effective hypnotic but did not suppress REM sleep.[24]

Alcoholic and Drug Toxicities

Both chlordiazepoxide and diazepam, particularly the former, have been used in the treatment of alcoholism. This includes amelioration of the excited and combative episodes of acute intoxication as well as decreasing the hallucinations and psychomotor restlessness of the withdrawal period.[24] One study showed chlordiazepoxide to be better than chlorpromazine and equal to the combination of chloral hydrate and paraldehyde in controlling convulsive disorders and other symptoms of delirium tremens.[33] Diazepam has recently become popular in the treatment of hallucinogenic drug crises. Some authors recommend oral diazepam as the drug of choice for the "bad trip."[2,38,58] Another interesting study revealed that diazepam eliminated the major withdrawal symptoms in mice addicted to morphine. When used in the short-term detoxification of adolescent heroin users, diazepam significantly shortened the symptomatic period and prevented any potential serious withdrawal sequelae.[40]

Convulsive Disorders

Shortly after its introduction, the oral use of chlordiazepoxide was found to decrease the number of seizures in patients with epilepsy.[6,57] One study showed that two-thirds of the cases of status epilepticus could be controlled with intravenous chlordiazepoxide.[23] However, the introduction of diazepam, with the finding that the seizure discharges on EEG could be abolished within a few seconds after intravenous administration, has superseded this use for chlordiazepoxide. Now, diazepam is thought by many to be the drug of choice for status epilepticus.[41] There is some evidence that diazepam is less effective in relieving the convulsive manifestations resulting from acute trauma or cerebral disorders, but is quite successful in cases of old or slowly progressive neurological lesions.[22,50]

The use of intravenous diazepam is not without complications. In one study of 30 patients, there was one cardiac arrest, two cases of transient hypotension, and three cases of respiratory depression. However, three of these patients had also been given barbiturates intravenously.[50] In another study reporting five cases of hypotension and one case of respiratory depression after intravenous administration of diazepam, it was found that all of the patients had also been given phenobarbital intramuscularly.[4]

Tetanus, Dystonias, etc

Although not the treatment of choice in severe cases, diazepam has been used in the management of selected cases of tetanus. It is effective in controlling the muscle rigidity, particularly of the jaws, but is less effective in controlling reflex muscle

spasms. Toxic effects were minimal with even large doses.[19,28] Diazepam has been used with success for spastic conditions in adults, drug-induced dyskinesias, facial tics in children, and the salaam myoclonic seizures of infancy.[7] In a double blind study diazepam was superior to placebo in treating children with cerebral palsy as manifested by improved behavior, cooperation, and ambulation.[17]

Surgical Uses

Both chlordiazepoxide and diazepam have been used in premedication prior to surgery. Several workers have reported that the intermittent use of chlordiazepoxide[31] or diazepam[13] on the day prior to surgery was successful in allaying apprehension and producing a good night's sleep.[67] The oral use or diazepam (syrup) in children as a premedicant on the day of surgery has yielded both favorable[14] and unfavorable results.[10] In adults, the intramuscular use of the benzodiazepines have produced favorable results as premedicants. Chlordiazepoxide (100 mg) and diazepam (10 mg) have been shown to be as effective as morphine (10 mg) and promethazine (50 mg) without the emetic or other side effects of the latter two drugs.[25] Diazepam also has been used in combination with opiates and parasympatholytic agents for successful premedication.[15]

Diazepam was first used as an induction agent in anesthesia in 1964 and since that time has received many favorable reports.[27,44] Some of the advantages of diazepam include the absence of cough or hiccough, only minimal changes in respiration or blood pressure, amnesia, smooth transition to inhalation agents, tranquil recovery, no increased tendency to emesis, and no change in liver function.[8,46] Some disadvantages include delay in onset of action and in recovery, lack of analgesia, tendency to increased salivation, occasional pain on injection and local thrombosis, and the variability in individual response to the agent.[8,15,46] The lack of significant side effects with diazepam prompts its use for the aged, traumatized, and poor risk patients.[29,44] Intravenous diazepam has been reported to produce ideal conditions for cardiac catheterization in children.[59]

Because of its amnesic properties, diazepam administered intravenously has been suggested for use in postoperative states and for sedation in intensive care units.[15] It also has been used in the management of postoperative excitement without any troublesome side effects.[12]

Obstetrics

Diazepam has been successfully utilized in patients in labor to help relieve apprehension and pain. In one such study using 20-40 mg of parenteral diazepam, blurring of memory for the event occurred without apparent effect on Apgar scores or length of labor.[5] Flowers used parenteral diazepam and in half of his patients satisfactory labor was carried out without meperidine, and in the other half the dosage requirement of the analgesic was reduced. There was good amnesia but he reports occasional transient hypotonic hypoactivity in the neonates.[21]

Dentistry

Several studies on the use of intravenously administered diazepam in dentistry have appeared since 1966. All generally report similar results in patients who were apprehensive or unmanageable in prior attempts. The patients were prepared as for general anesthesia, and an average dose of 10-20 mg was used. A sleep-like state without loss of reflexes was produced

which lasted about 15 to 30 minutes. Local analgesia was necessary and good results were found with and without atropine. No serious side effects were described and the amnesic qualities were repeatedly reported.[16]

Cardioversion

The use of diazepam in cardioversion was introduced in 1965 and the lack of cardiorespiratory side effects and the amnesic actions were prominent. Muenster, et al (1967) compared diazepam (15-20 mg) with sodium thiopental (250-400 mg) in a series of cardiac patients with atrial fibrillation. Neither group showed any premature ventricular beats prior to falling asleep but in the 30-second period preceding cardioversion they were recorded in 60% of the patients receiving thiopental, but in none of the patients medicated with diazepam. The eventual conversion rate, however, was unaffected by anesthesia.[48]

Endoscopy

Intravenously administered diazepam (5-10 mg) with local anesthesia has been used successfully in bronchoscopy. A certain amount of muscle relaxation occurred and again the amnesic effects were marked.[55] In combination with meperidine, intravenous diazepam has been used prior to esophagoscopy and gastroscopy without local analgesia. Results were good or excellent in 90% of cases, but in a few cases the gag reflex was not suppressed and examination could not be performed.[64]

Abuse

Despite the ever increasing use of the benzodiazepines and the fact that physical dependence has been shown to occur, there are virtually no reports of abuse other than in suicide attempts. In the major work on overdoses reported by Zbinden et al (1961), 22 patients who had ingested 0.2 to 2.25 gm of chlordiazepoxide were described. Although they were drowsy and sedated, all of the patients were arousable and able to talk, eat, and drink.[68]

There is a single report of a clinical impression of habituation to chlordiazepoxide in alcoholics who received the drug as part of their therapy.[20] One explanation for the lack of abuse reports is that the benzodiazepines produce less euphoria and are less pleasant than barbiturates, meprobamate, and potent analgesics.[24] This may be true, but it is probably naive to believe that abuse and habituation to a drug with a proven capacity to induce physical dependence is not occurring, especially considering the increasing popularity of the benzodiazepines with physicians and patients.

A copy of the author's reference list is available on request from *Texas Medicine*, 1801 N Lamar Blvd, Austin, Tex 78701.

Methylphenidate

F. C. Manning

Methylphenidate is the generic name for methyl, alpha-phenyl-2-piperidine acetate, which was first synthesized in 1944.[1] It is marketed as the hydrochloride, a white crystalline compound freely soluble in water and ethyl alcohol. Methylphenidate is available in oral tablet form and in solution for parenteral injection.

Pharmacology

Methylphenidate is a mild cortical stimulant with a potency intermediate between amphetamine and caffeine. Its mechanism of action is unknown. However, in experimental animals the drug produces psychic stimulation and an increase in coordinated motor activity.[2] In experiments on human subjects, methylphenidate was found to produce significant euphoria and occasional psychotomimetic changes when given in large doses.[3,20] There have been reports of hallucinosis and overt psychotic behavior following short-term and extended use of the drug.[4,5] The psychological effects of this drug, then, are similar to those of the amphetamines.

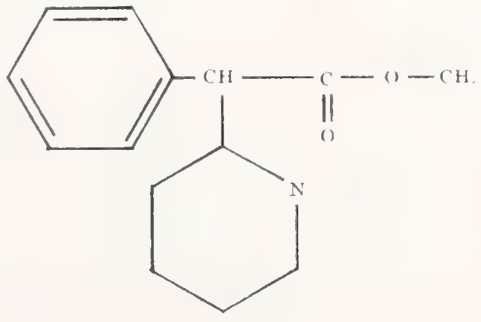
Respiration and blood pressure are only slightly affected by doses of methylphenidate that produce central nervous system (CNS) stimulation, although blood pressure may frequently be elevated following parenteral administration. The drug has been shown to produce tachycardia that shows a positive correlation with increased blood pressure.[3] The mechanisms of its cardiovascular actions, whether central or peripheral, are as yet unclear.

Methylphenidate has been shown to be a potent appetite depressant both in experimental animals[6] and in man.[3] The drug also produces marked changes in the sleep cycle in man by significantly depressing rapid eye movement sleep,[7] but its overall effect in reducing total sleep time appears to be slightly less than that of amphetamine.[3] Other effects which may occasionally be seen with methylphenidate in addition to anorexia and insomnia are nervousness, dizziness, palpitation, headache, and dryness of the mouth.

Recent questions have arisen over the issue of methylphenidate's interaction with other drugs. While the drug is known to exert a slight vasopressor effect, it has also been shown to antagonize the effects of various other vasopressor substances.[8] Furthermore, recent in vitro and clinical studies have suggested that methylphenidate inhibits drug metabolism in man, thereby potentiating the effects of other drugs. Studies have indicated that the drug inhibits the metabolism of certain anticonvulsants (diphenylhydantoin and primidone) and anticoagulants (ethyl biscoumacetate).[9] A more recent report of a clinical experiment failed to confirm this effect for ethyl biscoumacetate.[10] There is also recent evidence that the metabolism of imipramine and desipramine may be impaired by methylphenidate.

The excretion of methylphenidate occurs mostly through the kidneys in unchanged form, although some appears in the urine as the metabolite alpha-phenyl-2-piperidine acetic acid.[11] Both forms can be detected and identified in both urine and blood samples.

1. Methyl, alpha-phenyl-2-piperidine acetate (methylphenidate).



In summary, relatively little is known about the pharmacological mechanisms of methylphenidate. Until more specific information is available, it is convenient to think of the overall effects of this drug as being similar to the typical pharmacologic, therapeutic, and adverse effects of the amphetamine drugs.

Clinical Uses

Methylphenidate has a variety of clinical uses. It has been shown to produce a significant improvement in mildly to moderately depressed outpatients who also suffered from symptoms of fatigue,[12] however, it is contraindicated in depressed patients who are also tense and anxious. Methylphenidate is also effective in reducing hyperactivity and distractibility in hyperactive children;[13] it has been postulated that the drug is associated with improved attention span as the basis for the improved motor coordination and performance skills in children with learning problems.[14] Some authors, however, warn against methylphenidate's use in children with minimal brain dysfunction other than hyperkinesis.[15] The drug has been used in controlling the symptoms of narcolepsy. Other interesting, though less common, uses of methylphenidate have been in suppressing hiccups,[16] in the treatment of cardiogenic shock with vasomotor dependency,[17] and in the combination therapy for frigidity with LSD.[18]

Abuse

Little information is available regarding the exact extent of methylphenidate abuse. Nonetheless, its abuse potential and abuse characteristics should be considered to be comparable to those of the amphetamines.[5,19] In experiments with known drug users, methylphenidate was shown to demonstrate a high "liking" index when taken in high dosage.[3] It is known that methylphenidate is widely used by students and by truck drivers because of the drug's effects to reduce fatigue. Psychic dependence can occur with long-term use of large doses, but no physical dependency has been demonstrated.

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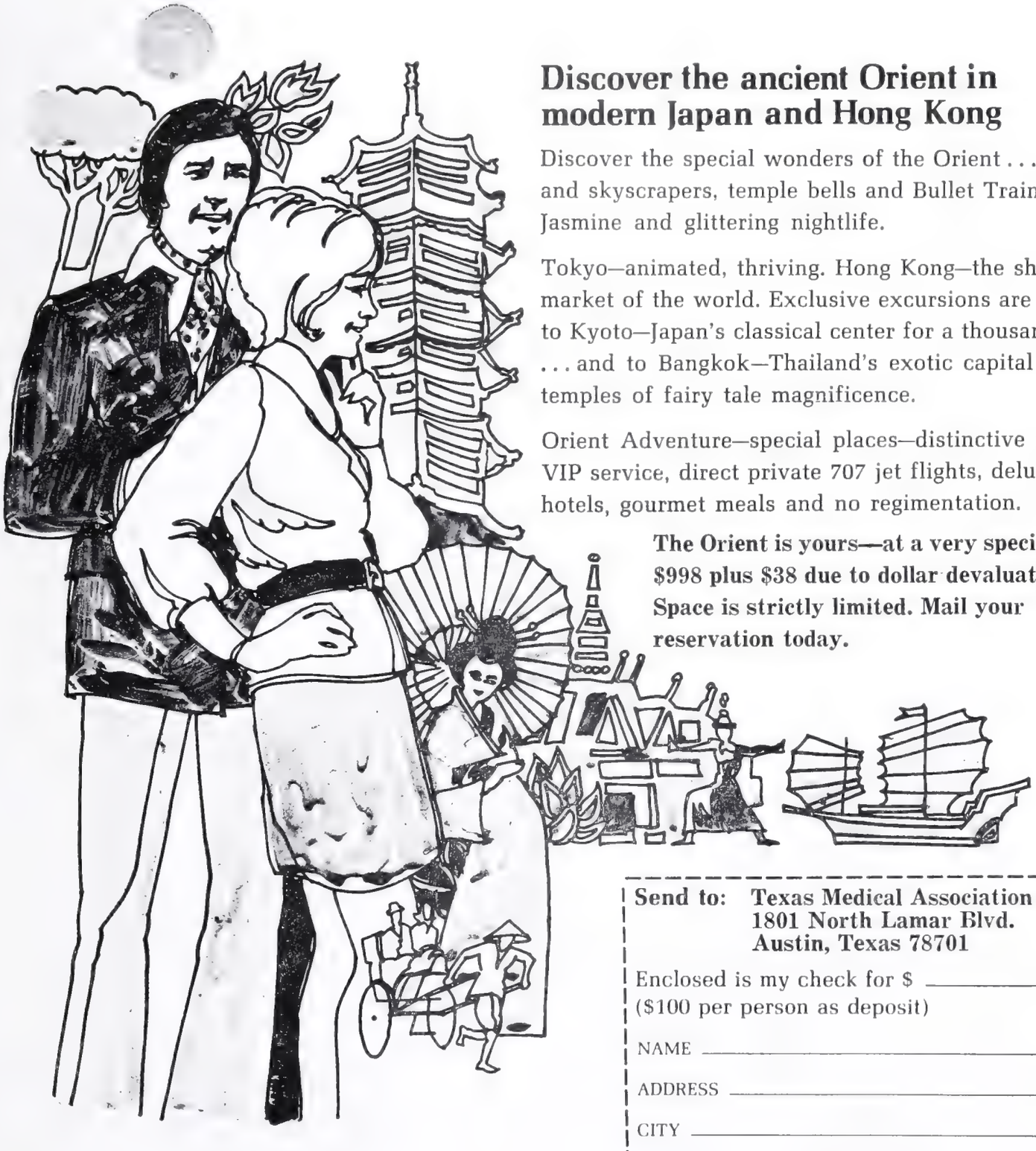

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1. Latiolais, C. J., and Berry, C. C.: Misuse of Prescription Medications by Outpatients, *Drug Intelligence & Clin. Pharm.* 3:270-7, 1969.
2. Braverman, L. E., Ingbar, S. H., and Sterling, K.: Conversion of Thyroxine (T4) to Triiodothyronine (T3) in Athyreotic Human Subjects, *J. Clin. Invest.* 49:855-64, 1970.
3. American Druggist BLUEBOOK, March, 1971.

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Indications: SYNTHROID (sodium levothyroxine) is specific replacement therapy for diminished or absent thyroid function resulting from primary or secondary atrophy of the gland, congenital defect, surgery, excessive radiation, or antithyroid drugs. Indications for SYNTHROID (sodium levothyroxine) **Tablets** include myxedema, hypothyroidism without myxedema, hypothyroidism in pregnancy, pediatric and geriatric hypothyroidism, hypopituitary hypothyroidism, simple (nontoxic) goiter, and reproductive disorders associated with hypothyroidism. SYNTHROID (sodium levothyroxine) **for Injection** is indicated for intravenous use in myxedematous coma and other thyroid dysfunctions where rapid replacement of the hormone is required. The injection is also indicated for intramuscular use in cases where the oral route is suspect or contraindicated due to existing conditions or to absorption defects, and when a rapid onset of effect is not desired.

Precautions: As with other thyroid preparations, an overdosage may cause diarrhea or cramps, nervousness, tremors, tachycardia, vomiting and continued weight loss. These effects may begin after four or five days or may not become apparent for one to three weeks. Patients receiving the drug should be observed closely for signs of thyrotoxicosis. If indications of overdosage appear, discontinue medication for 2-6 days, then resume at a lower dosage level. In patients with diabetes mellitus, careful observations should be made for changes in insulin or other antidiabetic drug dosage requirements. If hypothyroidism is accompanied by adrenal insufficiency, as Addison's Disease (chronic subcortical insufficiency), Simmonds's Disease (panhypopituitarism) or Cushing's syndrome (hyperadrenalism), these dysfunctions must be corrected prior to and during SYNTHROID (sodium levothyroxine) administration. The drug should be administered with caution to patients with cardiovascular disease; development of chest pains or other aggravations of cardiovascular disease requires a reduction in dosage.

Contraindications: Thyrotoxicosis, acute myocardial infarction. **Side effects:** The effects of SYNTHROID (sodium levothyroxine) therapy are slow in being manifested. Side effects, when they do occur, are secondary to increased rates of body metabolism; sweating, heart palpitations with or without pain, leg cramps, and weight loss. Diarrhea, vomiting, and nervousness have also been observed. Myxedematous patients with heart disease have died from abrupt increases in dosage of thyroid drugs. Careful observation of the patient during the beginning of any thyroid therapy will alert the physician to any untoward effects.

In most cases with side effects, a reduction of dosage followed by a more gradual adjustment upward will result in a more accurate indication of the patient's dosage requirements without the appearance of side effects.

Dosage and Administration: The activity of a 0.1 mg. SYNTHROID (sodium levothyroxine) TABLET is equivalent to approximately one grain thyroid, U.S.P. Administer SYNTHROID tablets as a single daily dose, preferably after breakfast. In hypothyroidism without myxedema, the usual initial adult dose is 0.1 mg. daily, and may be increased by 0.1 mg. every 30 days until proper metabolic balance is attained. Clinical evaluation should be made monthly and PBI measurements about every 90 days. Final maintenance dosage will usually range from 0.2-0.4 mg. daily. In adult myxedema, starting dose should be 0.025 mg. daily. The dose may be increased to 0.05 mg. after two weeks and to 0.1 mg. at the end of a second two weeks. The daily dose may be further increased at two-month intervals by 0.1 mg. until the optimum maintenance dose is reached (0.1-1.0 mg. daily).

Supplied: Tablets: 0.025 mg., 0.05 mg., 0.1 mg., 0.15 mg., 0.2 mg., 0.3 mg., 0.5 mg., scored and color-coded, in bottles of 100, 500, and 1000. Injection: 500 mcg. lyophilized active ingredient and 10 mg. of Mannitol, N.F., in 10 ml. single-dose vial, with 5 ml. vial of Sodium Chloride Injection, U.S.P., as a diluent. SYNTHROID (sodium levothyroxine) **for Injection** may be administered intravenously utilizing 200-400 mcg. of a solution containing 100 mcg. per ml. If significant improvement is not shown the following day, a repeat injection of 100-200 mcg. may be given.

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Amphetamines

Alton Allen, Tom Clark

As with other abused drugs, stimulants of the central nervous system (CNS) have been with man since before recorded history. Virtually all of the natural sources of caffeine (coffee, tea, etc) were discovered by primitive people. Cocaine has been used in South America for thousands of years. The amphetamines, however, are newcomers—products of modern pharmacological research. Amphetamine was first synthesized in 1927by Leake while he was looking for an analogue for epinephrine that would be useful in the treatment of asthma. In 1933 Alles observed the bronchodilator, respiratory stimulant, and analeptic actions. For 20 years amphetamines were used sparingly as decongestants and to treat narcolepsy. Following World War II amphetamines were used with increasing frequency as stimulants (pep pills) and anorexics. As public demand and the amount manufactured increased, amphetamine abuse became significant.

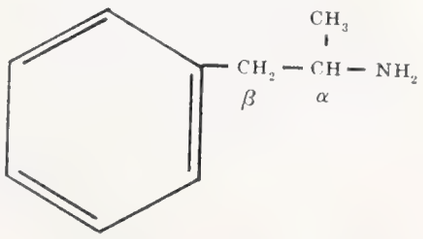
Pharmacology

As a class the amphetamines have the structure shown in Fig 1. Since the alpha-carbon is asymmetrical, there are *d* and *l* isomers, and these differ in activity. The *d* form (dextroamphetamine, Dexedrine) is more potent in terms of central stimulant effects while the *l* isomer (levoamphetamine) is more potent in terms of peripheral cardiovascular activity. Amphetamines structurally resemble catecholamines; however, their lack of hydroxyl groups allow them to cross the blood-brain barrier more easily and thus have a greater CNS effect.

Amphetamine is absorbed well orally and parenterally. Peak blood levels occur in a little more than one hour after an oral dose. The highest tissue levels occur in the kidney, lung, and liver as might be expected, but also in the spleen, brain, and heart. The CSF is in equilibrium with the low plasma levels, while the brain has levels ten times higher than plasma.[5]

The most important way in which the body eliminates amphetamine is through excretion of the unchanged compound by the kidneys.[5,6,10] However, the ability of the kidneys to excrete amphetamine unchanged varies widely, depending on the degree of acidity of the urine. Clearance may be less than 100 ml/min when the urine pH fluctuates, while in a maintained acidotic state the clearance may be as high as 400-500 ml/min.[6] An alternative method of elimination is through the enzyme-mediated chemical pathways. Because of the similarities between amphetamine and endogenous amines like norepinephrine and dopamine, one might expect that some of the enzymes specifically involved in catecholamine metabolism might also act on amphetamines. In fact, it is the *nonspecific* enzymes in the liver that are more important quantitatively. These enzymes vary greatly from species to species. The pathways and endproducts are different in various animals. For example, in man benzoic acid and hippuric acid are the usual metabolites, while in rats, p-OH-amphetamine and its conjugates are. Since benzoate and hippurate are normally present in human urine, these cannot be measured as indicators of amphetamine ingestion. In the first 24 hours, 60-70% of an oral dose is excreted and about half of that is unchanged amphetamine. The total elimina-

1. Basic structure of amphetamines.



tion of a dose takes about seven days, but 90% can usually be accounted for in four days.

Amphetamine is thought to be an indirectly acting, sympathomimetic amine. Its effects on the body are by way of the sympathetic nervous system; but rather than acting directly on the receptors, it acts presynaptically to cause the release of the endogenous transmitter substances. Amphetamine also inhibits the reuptake of the neurotransmitter, thus increasing the duration of the impulse.

Amphetamine is distinguished from other stimulants of the CNS mainly by being more specific in its actions. Cocaine, like amphetamine, blocks reuptake of norepinephrine, but it also stabilizes neuronal membranes in general, inhibiting propagation of action potentials. Thus, it has additional effects on nonadrenergic nerves. Some amphetamine analogues are capable of direct interaction with the receptors. Caffeine acts by still a different mechanism. These biochemical processes are the subject of a large body of ongoing research and there are still many unanswered questions.

Effects

While the effect of amphetamine at the biochemical level is relatively specific, at the physiological and behavioral levels it is general. Thus none of the effects of amphetamine are pathognomonic. In looking at the clinical manifestations of amphetamine, it is helpful to distinguish between acute doses in the therapeutic range, acute toxic doses, and chronic intoxication.

The acute dose in the therapeutic range produces the following effects:

Peripheral

1. Increased vascular resistance leading to increased blood pressure
2. Arrhythmias (usually at higher dose levels)
3. Tachycardia or reflex slowing of the heart
4. Mydriasis
5. Urine retention
6. Variable effects on gut motility

Central

7. Sense of well-being; euphoria at higher doses
8. Decreased sense of fatigue; insomnia; increased alertness
9. Decreased appetite
10. Stimulation of medullary respiratory center
11. Increased motor activity and reflex activity; irritability
12. Talkativeness

Some of the subjective central effects vary depending on the personality of the user.

Toxic or lethal doses will lead to more extreme degrees of the same symptoms, especially tachycardia, insomnia, motor excitation, and irritability. Additionally toxic overdose includes:

1. Panic reactions
2. Confusion and hallucinations
3. Circulatory collapse
4. Convulsion, coma, and death

Death, when it occurs, is almost always due to changes secondary to vascular collapse, but death due to overdose of amphetamine is rare.[22]

The most common clinical situation involves the chronic use of amphetamines. The clinical manifestations are somewhat different because tolerance develops rapidly to effects on the cardiovascular system, appetite, and the euphoriagenic effect. There is a tendency to increase the dose, thus leading to an increased importance of those effects for which tolerance does not

occur, such as wakefulness, nervousness, and hyperactivity.

Perhaps the most significant effect of chronic amphetamine intoxication is the "amphetamine psychosis" which often is clinically indistinguishable from paranoid schizophrenia. Amphetamine psychosis differs from other toxic psychoses in that the patient is usually well-oriented and has a clear sensorium. Amphetamine may be detected in the urine, and the condition rapidly remits following the withdrawal of the drug. The symptoms usually include paranoid delusions that are moderately well systematized, ideas of reference, feelings of strangeness, heightened affective involvement with objects, hallucinations (most visual, but some auditory or olfactory), sexual fantasies, and déjà vu and jamais vu experience. Disrupted associations and autism are usually absent. The behavior of the psychotic amphetamine user usually is aggressive and may include such characteristic features as hand-face touching, bruxism, and distortion of facial expressions.[9,11,12]

Psychotic reactions probably are common among amphetamine users, especially those who use the drug regularly and in doses exceeding 50-100 mg/day. The psychotic reactions are not limited to those who show psychotic tendencies prior to the use of amphetamines. Some, however, believe that the reactions that persist after discontinuing the drug (5-20%) are limited to those who were psychotic or prone to psychosis before using amphetamines.

Withdrawal

Sudden withdrawal of amphetamines does not produce physical discomforts, physiological crises, or craving of the drug. However, it is regularly associated with depression, fatigue, excess sleeping, and electroencephalographic changes of unknown significance.[19]

Abuse

There are two observations on the abuse patterns involving amphetamines. First, there are significant differences in the clinical problems presented by those who inject the drug as opposed to those who take it orally. Those who inject are more prone to the psychotic reactions, physical debilitation, recidivism, and a more compulsive pattern of use including a preoccupation with drugs in general. (Sigmund Freud was one of the first to observe and report on this significance of the route of administration, although his work involved cocaine instead of amphetamine.)

There are clinical problems related to the injections themselves since often they are nonsterile. Thus, one might expect to see the same sort of infectious diseases in amphetamine users as have been reported in heroin users—endocarditis, hepatitis, skin abscesses, and thrombophlebitis.

The second observation is that amphetamines often are used in combination with other drugs. This means that the patient is likely to be simultaneously habituated to other drugs such as barbiturates, alcohol, or narcotics. One should always look for signs of withdrawal that are related to these agents even when the patient presents originally for symptoms related to amphetamines.

Clinical Use

Clinically, amphetamines have been used to control narcolepsy, control hyperkinetic behavior in children, relieve or prevent fatigue in individuals with deteriorated psychomotor function, and to induce insomnia or counteract fatigue in persons

whose occupations require mental or physical tasks of long duration (eg, astronauts). They also have been used to antagonize the pharmacological actions of depressants at therapeutic but not toxic levels, to control appetite, treat mild depression, enhance the action of analgesic drugs, and control some of the symptoms of parkinsonism.

At present, the consensus among medical practitioners is that amphetamines are ineffective for weight control and that better drugs are available for treating parkinsonism, mild depression and for enhancing effects of analgesics.[23]

A copy of the author's reference list is available on request from *Texas Medicine*, 1801 N Lamar Blvd, Austin, Tex 78701.

The changing face of Texas Medicine

The June 1923, issue of the *Texas State Journal of Medicine*, now *Texas Medicine*, contained the editor's account of the recently-completed Annual Session in Fort Worth, and the transactions of the House of Delegates.

At the Fort Worth meeting, which was attended by 1,123 physicians, Dr. Arthur Carroll Scott of Temple became the 56th president of the Association. The name of Dr. Scott, of course, is a familiar one in Texas medical history. He was co-founder, with Dr. Raleigh R. White, of Scott and White Clinic in Temple, and was noted for his work in the early treatment of cancer.

Among the actions taken and the reports given at the Fort Worth Annual Session, was the referral to the Committee on Revision of Constitution and By-Laws of a recommendation that a Council on Scientific Work be created. This was later accomplished in fact in 1926, with Dr. Scott being the first council chairman. In addition, it was reported that the Association was experiencing its best membership year ever, and that profits for the year were $5,118.27.

Postgraduate instruction, which is now called "continuing education," was also a topic at the annual meeting. The editor reported that, "Postgraduate instruction received the commendation of several of the officers and committees, formally and informally. Unquestionaly [*sic*] this comparatively new feature of Association activities is a success. Appreciation of the services of the faculties engaged in putting on this work, was manifest. Repeatedly the opinion was vouchsafed that no work of this Association is of greater importance than this.

"Most of the discussion of the annual session bore upon public health problems, principally the matter of legislation and public education. . . . Resolutions were adopted favoring reorganization of the State Board of Health, and other resolutions against the licensing of chiropractors and other substandard practitioners of medicine. Resolutions were also adopted endorsing the definition of State Medicine, adopted by the American Medical Association last year, and another condemning the training of ex-servicemen in chiropractic."

Medical education also received attention at the meeting. "Dr. Keiller, our Delegate to the Association of American Medical Colleges, holds that the demands being so loudly made for clinical work in the early part of the medical course, are not justified, and that those having to do with medical education will appreciate this within a short while. Dr. Keiller has pronounced views on the teaching of anatomy. . . . It seems that some of the older institutions are departing from the straight and narrow path of instruction in anatomy, and there are those who believe that there is no other kind of path in anatomy."

The editor also noted that the Association's ex-presidents had banded together in a group. The combined ages of the physicians in the group was 1,425 years, and the combined number of years in practice was 864, or an average of 37½ years.

Record-breaking 4,788 visit '73 Annual Session

A full house of Delegates listens intently to the speaker at the opening session of TMA's Annual Session in Dallas. Meetings of the House were held in the Statler-Hilton Hotel.

Dr. William Grater of Dallas, chairman of the Association's new Section on Allergy, gavels the first meeting of the section to order. The Section on Nuclear Medicine also held its first meeting at the Dallas Annual Session.

Dr. Howard O. Smith of Marlin, right, talks with family physician J. C. Erwin, Jr., of McKinney at the General Meeting Luncheon where members of the Fifty Year Club were honored. Dr. Smith is this year's Distinguished Service Award winner.

Outgoing and incoming Association officers are, from left, Dr. Braswell Locker, of Brownwood, immediate past president; Dr. John D. Martin of El Paso, immediate past vice-president; Dr. Paul Meyer, Port Arthur, vice president; Dr. Charles B. Dryden, Wichita Falls, president; Dr. Ed W. Schmidt of Pecos, president-elect; and Dr. Jack B. Lee of San Antonio, speaker of the House of Delegates.

Physicians crowd around the table at a Curbstone Consultation on Interpretation of Chest X-Rays, at the Dallas Annual Session.

"Bad guys" from the Harris County delegation doffed black hats after they voted against the formation of a corporation which would act as a PSRO.

Dr. May Owen of Fort Worth, TMA past president, stands before the House of Delegates as Dr. Braswell Locker unveils her portrait. The portrait will hang in Association Headquarters in Austin.

Medicine in literature

Pediatric Cardiology, ed 3, AS Nadas, DC Fyler, 749 pp, illus, Philadelphia, W.B. Saunders, 1972, $25.

ONE CANNOT HELP but admire an author of Dr. Nadas' stature and accomplishments who has the motivation, let alone the ability, to make a third revision of his textbook. The third edition is virtually a new book and is unquestionably the best of the three. Many statements in the first two editions which were based on clinical impressions are confirmed by factual data in this edition. Although the authors clearly indicate that much of the information is drawn from their own experience, they refer generously and helpfully to publications from other institutions.

The book is written in such a way that it will appeal to and inform a wide audience. One can read about all of the common (and many of the rare) congenital and acquired cardiac defects, and find virtually everything that is currently important on the subject.

The index of the book could have been better organized, but the important aspect of the work is that the authors candidly report their own experience, thus giving credibility to every line. Even if the reader is rather frustrated by a weak index, he will find delightful and easy reading, which makes some of the complex malformations easily understandable, and brings new life to some important but often disregarded elements of cardiovascular evaluation.

DAN G. MacNAMARA, MD
Houston

IN THE TMA LIBRARY

Bethlem J: *Muscle Pathology; introduction and atlas*. Amsterdam, North-Holland Publishing Co, 1970.

Camden JW: *Emergency Medical Services*. Greenwich, Conn, Technomic, 1972.

Debré R, Celers J et al (eds): *Clinical Virology; the evaluation and management of human viral infections*. Philadelphia, W. B. Saunders, 1970.

Field EJ, Bell TM, Carnegie PR (eds): *Multiple Sclerosis; progress in research*. Vol 3 in Bearn AG, Black DAK, and Hiatt HH (eds): *Clinical Studies*. New York, American Elsevier, 1972.

Fleming A: *Doctors in Petticoats*. Philadelphia, Lippincott, 1964.

Fuchs F, Klopper A (eds): *Endocrinology in Pregnancy*. New York, Harper & Row, 1971.

Gifford RW, Jr: *Methyldopa in the Management of Hypertension*. West Point, Pa, Merck Sharp & Dohme, 1972.

Glorig A, Gerwin KS (eds): *Otitis Media: proceedings of the National Conference Callier Hearing and Speech Center, Dallas, Texas*. Springfield, Ill, Charles C Thomas, 1972.

Green R, Money J (eds): *Transsexualism and Sex Reassignment*. Baltimore, Johns Hopkins Press, 1969.

Horton EW: *Prostaglandins*. New York, Springer-Verlag, 1972.

Kark RM, Lawrence JR, Pollak VE et al: *A Primer of Urinalysis*, ed 2. New York, Harper & Row, 1963.

Kerr AH: *Medical Hieroglyphs; abbreviations and symbols*. Chicago, Clissold Books, 1970.

Luce GG: *Biological Rhythms in Human and Animal Physiology*. New York, Dover Publications, 1971.

Lutzker E: *Women Gain a Place in Medicine*, in the series, Greenberg DA (ed): *The History of Science*. New York, McGraw-Hill, 1969.

MacKay RS: *Bio-Medical Telemetry; sensing and transmitting biological information from animals and man*, ed 2. New York, Wiley & Stone, 1970.

McNair TJ (ed): *Emergency Surgery*, ed 9. Baltimore, Williams and Wilkins, 1972.

Meyler L, Herxheimer A (eds): *Side Effects of Drugs; a survey of unwanted effects of drugs reported in 1968-1971*, vol 7. Amsterdam, Excerpta Medica, 1972.

Millis JS: *A Rational Public Policy for Medical Education and its Financing; a report to the Board of Directors, The National Fund for Medical Education*. New York, National Fund for Medical Education, 1971.

Moir DD: *Pain Relief in Labour: a handbook for midwives*. Edinburgh, Churchill Livingston, 1971.

Murphy LJT: *The History of Urology*, incorporating Desnos E: *L'Histoire de L'Urologie*. Springfield, Ill, Charles C Thomas, 1972.

National Commission on State Workmen's Compensation Laws: *Report*. Washington, DC, US Government Printing Office, 1972.

Noland RL (ed): *Counseling Parents of the Emotionally Disturbed Child*. Springfield, Ill, Charles C Thomas, 1972.

Oberst BB: *Practical Guidance for Office Pediatric and Adolescent Practice*. Springfield, Ill, Charles C Thomas, 1973.

Ormond JK, Drew DR, Urwiller KL: *Genetics and the Urologist*. Springfield, Ill, Charles C Thomas, 1972.

Ounsted C, Taylor DC (eds): *Gender Differences: their ontogeny and significance*. Baltimore, William & Wilkins, 1972.

Patterson R (ed): *Allergic Diseases; diagnosis and management*. Philadelphia, J. B. Lippincott, 1972.

Peel J, Potts M: *Textbook of Contraceptive Practice*. New York, Cambridge University Press, 1969.

Personals

Texas towns and cities are continuing to honor their local physicians. Among the latest to come to our attention: DR. J.B. HEATH of Madisonville, where the mayor proclaimed April 15 as "J. B. Heath Day"; DR. E. ELWORTH LOWREY named Gatesville's Citizen of the Year; DR. T. L. GARDNER, Livingston, as Polk County Man of the Year; DR. J. J. SCHILLER, as an outstanding citizen of Rowena; DR. R. L. NEWSOM, Munday, as that town's Citizen of the Year; DR. PAUL GEERS, named Man of the Year in Whitewright; DRS. F. W. FARLEY, R. C. FELTS, and B. L. TROTTER, honored by the San Saba County Chamber of Commerce; and DR. C. C. CLEVELAND, honored by employees of the Hamilton County General Hospital, who framed and hung Dr. Cleveland's first stethoscope in the hospital lobby.

DR. IKE HUDSON, retired physician in Stamford, was honored by his town recently in a different way—he was elected mayor in a late April runoff election.

DR. WILLIAM T. BUTLER, professor of microbiology and medicine at Baylor College of Medicine in Houston, has been named associate dean of the medical school. His appointment was announced by Baylor president MICHAEL E. DeBAKEY.

DR. RICHARD S. RUIZ, chief of ophthalmology at Hermann Hospital at Houston, and director of the program in ophthalmology at The University of Texas Medical School in Houston, has left for London, England, to study with Mr. Michael Bedford FRCS, a physician well-known for his work with ocular tumors. Dr. Ruiz is a member of TEXAS MEDICINE's Scientific Publication Committee.

DR. BRYAN WILLIAMS, Dallas, has been elected governor for the North Texas region of the American College of Physicians.

RECENTLY DECEASED MEMBERS OF THE TEXAS MEDICAL ASSOCIATION

R. M. ADAMS
Beaumont 1925-1973

J. R. BARCUS
Fort Worth 1896-1973

W. H. BRANDAU
Beaumont 1889-1973

J. H. DAMERON
Livingston 1886-1973

J. D. DAUGHETY
Longview 1916-1973

T. R. HALL
Fort Worth 1934-1972

L. M. REDDING
Marshall 1904-1973

A. J. REDLAND
Kerrville 1900-1973

L. G. SHIPP
Littlefield 1910-1972

J. W. SIMONS
Wharton 1903-1973

J. W. STACK
Mesquite 1924-1973

IN MEMORIAM

The Memorial Library of the Texas Medical Association stands as a permanent memorial to physicians who have served their patients, their profession, and the people of Texas so faithfully over the years.

The Library ranks as one of the finest in the nation. It is providing more than 10,000 reference requests, 3,500 tapes and cassettes, and 2,500 films each year to physicians, students, and to those seeking information related to medicine and health care. The resources of the Library include 60,000 volumes, 400 tapes, and 300 scientific and lay films; more than 1,300 professional journals are received monthly. Services are provided without charge.

Contributions to the Texas Medical Memorial Library Fund are invested in a permanent fund and are managed by the Board of Trustees of the Texas Medical Association. Dividends are used to purchase new books and to operate the Library.

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Recent deaths

Dr. L. G. Shipp

Dr. Larry Gilbert Shipp, 62, died Dec. 11, 1972, in Littlefield. Cause of death was cardiac arrest.

Born in Albertville, Ala., Dr. Shipp attended Vanderbilt University, Nashville, Tenn., and received his MD degree from Louisiana State University School of Medicine, New Orleans, in 1940. He interned at Duval Medical Center, Jacksonville, Fla. (1939-1940), and completed residencies with Chesapeake & Ohio Hospital, Huntington, W.Va. (1943-1944); Charity Hospital of Louisiana, New Orleans, La. (1951-1952); and St. Tammany Charity Hospital, Bogalusa, La. (1955-1956).

After practicing in Birmingham, Ala., Anniston, Ala., Pearson and Valadosta, Ga., and Kaplan, La., Dr. Shipp moved to Littlefield where he practiced until his death. He was a member of the Texas Medical Association, American Medical Association, Louisiana Medical Association, Phi Chi, and Sigma Alpha Epsilon.

Survivors include his wife, Lucille Truxillo Shipp, Littlefield; a daughter, Mrs. Suzannah LeBlanc, Houma, La.; two sons, Larry Shipp, Jr., Colorado Springs, Colo., and Jack Shipp, Denver, Colo.; and two grandsons.

Dr. T. R. Hall

Fort Worth psychiatrist, Dr. Thomas Russell Hall, 38, died Dec. 17, 1972, at Possum Kingdom Lake. Drowning claimed the life of the physician.

Dr. Hall received his BA degree from Texas Christian University, Fort Worth, and attended the College of William & Mary, Williamsburg, Va. He received his MD degree from Baylor University College of Medicine, Houston, in 1959. After an internship at Jefferson Davis Hospital, Houston, Dr. Hall did postgraduate work at the School of Aerospace Medicine, Brooke General Hospital, San Antonio. He was in private practice in Fort Worth from 1962 until 1965, when he entered a residency at The University of Texas Medical Branch at Galveston. In 1968, he returned to his private practice in Fort Worth where he remained until his death.

Dr. Hall was a member of the Tarrant County Medical Society, Texas Medical Association, American Medical Association, and Titus Harris Society.

The physician is survived by two sons, John and Thomas, both of Houston; three brothers, Milton Hall, Tyler, Wilbert Hall, Austin, and Lawrence Hall, Austin; and mother, Mrs. Willena Hall, Fort Worth.

Dr. Shipp

Dr. R. M. Adams

Retired Beaumont anesthesiologist Dr. Robert Milton Adams, 47, died Feb. 6, 1973, after a long illness.

Dr. Adams was born in Petaluma, Calif., and received his preliminary education in the Petaluma schools. He attended The University of Texas Medical Branch in Galveston. After completing an internship at the University of Oregon Affiliated Hospitals, Dr. Adams practiced briefly in Beaumont and Fort Sill, Okla. In 1952, he moved his practice to Groves, Tex.

Dr. Adams also practiced in Galveston from 1960 until 1962, when he moved to Beaumont, where he lived at the time of his death.

An inactive member of the Texas Medical Association since 1968, Dr. Adams was also a member of Jefferson County Medical Society, American Medical Association, American Society of Anesthesiologists, Texas Academy of Family Physicians, and American Academy of Family Physicians.

He served with the US Navy from1943 until 1946, and again during the Korean conflict.

Dr. Adams is survived by his wife, Evelyn Joyce Harvey Adams, Beaumont; a daughter, Christine Adams, a nurse in the Kidney Transplant Center, Galveston; and one son, Robert, Jr., a student at The University of Texas, Austin.

Dr. Daughety

Dr. Stack

Dr. Dameron

Dr. J. D. Daughety

Dr. Jewel Donald Daughety, 56, Longview anesthesiologist, died on Jan. 3, 1973, of a heart attack.

A native of Dallas, Dr. Daughety was the son of Marie Oswald and Dr. Jewel Daughety of Brownwood. He received a BA degree from Howard Payne College, Brownwood, in 1936, and earned his MD degree from Baylor University College of Medicine, Houston, in 1947. After completing an internship at Jefferson Davis Hospital, Houston, Dr. Daughety practiced in San Antonio until 1950, when he entered a residency in anesthesiology at Hermann Hospital, Houston. Upon its completion, he practiced in Texas and Arkansas before moving to Longview in 1971.

Dr. Daughety was a member of Texas Medical Association, American Medical Association, and American Society of Anesthesiologists.

Surviving the physician are his wife, Lorena Janeway Daughety, Longview; three sons, Don R., Danville, Va., Dr. Michael J., Austin, and Ted W., Dallas; and one brother, R. Oswald Daughety, Ithaca, NY.

Dr. J. W. Stack

Dr. John Warren Stack, councilor of the Fourteenth District of the Texas Medical Association and member of the TMA House of Delegates, died unexpectedly Jan.29, 1973, at his home in Mesquite. Cause of death was pulmonary edema.

The family physician was born Feb. 4, 1924 in Chauncey, Ohio. He took premedical studies at Ohio University in Athens and Yale University in New Haven, Conn. Dr. Stack was graduated in 1947 from the University of Cincinnati College of Medicine with an MD degree. After an internship at Baylor Hospital (now Baylor University Medical Center) in Dallas, Dr. Stack established his practice in Mesquite in 1948 and remained there until his death except for service with the US Army during the Korean War. Dr. Stack had also served with the US Navy during World War II.

Dr. Stack was a member of American Medical Association, Texas Medical Association, Dallas County Medical Society and American Academy of Family Practice. He was also a member of Alpha Omega Alpha and Phi Beta Kappa scholastic fraternities; and Beta Theta Pi, social fraternity.

Surviving Dr. Stack are his wife, Jean Herron Stack, Mesquite; four daughters, Virginia Kay Stack, Dallas, Mrs. Nancy Lewis, Silver Spring, Md., Peggy Lee Stack, Austin, and Bonnie Stack, Mesquite; a son, John Charles, Mesquite; one brother, Charles Stack, New Berlin, Wisc.; and one grandson, Clayton Michael Lewis.

Dr. J. H. Dameron

Noted Livingston surgeon Dr. James Haden Dameron, 86, died Feb. 8, 1973 at the Livingston Convalescent Center where he had been a resident for seven months.

Dr. Dameron was born in Madison, Miss., in 1886. After completing his preliminary education in Madison, he attended Mississippi A & M College in Starkville. In 1908, he was graduated from Louisville and Hospital Medical College, Ky., with an MD degree, and returned to Jackson, Miss. to begin practice. Before coming to Livingston in 1934, Dr. Dameron practiced in Mississippi and Texas, taking time out in 1917 to enter the US Army. He distinguished himself by his service in World War I, receiving the French Unit Citation for care of the wounded.

Dr. Dameron rejoined the armed forces during World War II, serving with the Army Air Corps at Ellington Field in Houston and at Lake Charles, La., attaining the rank of lieutenant colonel.

Admitted to the American College of Surgeons in 1936, Dr. Dameron was also a member of Polk-San Jacinto County Medical Society, Southern Medical Association, and American Medical Association. He was elected to honorary membership in Texas Medical Association in 1962.

Dr. Dameron is survived by his wife, Ellie Frances Campbell Dameron; a son, James Russell Dameron; a daughter, Mary Frances Dameron, all of Livingston; and one grandchild, of Huntsville, Tex.

Dr. J. R. Barcus

Ft. Worth surgeon James Roseman Barcus, 76, died Feb. 3, 1973, in Ft. Worth. Cause of death was acute coronary thrombosis.

Dr. Barcus, the son of Methodist minister Rev. John McFerrin Barcus and Molly McCrary Barcus, obtained his preliminary education in Jacksonville, Tex. He attended Trinity University in Waxahachie, and was graduated with a BA degree in 1917 from Southwestern University in Georgetown. He attended The University of Texas Medical Branch in Galveston, graduating with an MD degree in 1923.

After serving an internship at Bellevue Hospital Center and Knickerbocker Hospital in New York City, Dr. Barcus returned to Ft. Worth in 1925, where he practiced for three years. Afterwards, he practiced in Big Spring (1928-1931) and Gladewater (1931-1944). While in Gladewater, Dr. Barcus served as president of the Gregg County Medical Society in 1934. He also helped organize and was the first president of the Gladewater Chamber of Commerce. He returned to Ft. Worth in 1944, to enter practice with his brother, the late Dr. William Shelton Barcus, and remained there until his death.

Dr. Barcus, who served as a 2nd Lieutenant with the US Army from 1917 until 1919, was a member of American Medical Association, Texas Medical Association, Tarrant County Medical Society and Southwestern Surgical Congress.

He is survived by his wife, Lillian Phillips Barcus, Ft. Worth; a daughter, Linda Barcus, Grand Prairie; two sons, James R. Barcus, Jr., Carrolton, Tex., and Wm. P. Barcus, Arlington, Tex; and one sister, Mrs. G. H. L. Kent, Sarasota, Fla.

Dr. A. J. Redland

Col. Arthur John Redland, US Army (ret.) died Jan. 24, 1973, in a Kerrville hospital after a long illness. Cause of death was a massive stroke.

Dr. Redland was born 73 years ago in Hartford, Conn. After preliminary education in Hartford and in Philadelphia, Pa., Dr. Redland attended Temple University in Philadelphia and was graduated with an MD degree in 1926 from Thomas Jefferson University, Jefferson Medical College, in Philadelphia. He completed an internship at Letterman General Hospital in San Francisco, Calif., while serving with the US Army. Thereafter, Dr. Redland served at various military medical facilities in the continental United States and the Pacific as a general surgeon and later as a hospital administrator. He retired from the Army in 1957 after 33 years of service.

In that year, Dr. Redland came to Kerrville where he served as administrator of Legion State Tuberculosis Hospital until his retirement in 1972.

Dr. Redland was a member of American Medical Association, Texas Medical Association and Kerr-Kendall-Gillespie-Bandera Counties Medical Society. He was a fellow of the American College of Surgeons and the American College of Hospital Administrators, as well as an honorary member of Alpha Omega Alpha.

The physician is survived by his wife, Ruth Emilie Boehringer Redland, Kerrville; a daughter, Mrs. Ruth Van Horn of Milton, Wisc.; a son, Arthur J., Austin; a brother, Irving Redland, Upper Montclair, N.J.; and three grandchildren.

Dr. Barcus

Dr. Redland

Dr. L. M. Redding

Dr. Leman Maston Redding, 68-year-old Marshall family physician, died Jan. 15, 1973, at Marshall Memorial Hospital Annex. Renal carcinoma took the life of the physician.

Dr. Redding graduated from high school in San Diego, Calif. He attended The Univer-

Dr. Simons

Dr. Brandau

sity of Texas in 1923, and was graduated from Baylor University, Waco, with a BS degree in 1927. He earned his MD degree from the Baylor College of Medicine in Dallas (now Baylor College of Medicine, Houston) in 1931. After an internship at Parkland Hospital, Dallas, Dr. Redding practiced in Jacksonville, Tex., from 1932 until 1940. He moved to Marshall in 1940.

A member of the Texas Medical Association, American Medical Association, and Harrison County Medical Society, Dr. Redding had also served on the Harrison County Public Health Committee of the Chamber of Commerce and as health officer of Harrison County from 1961 to 1969.

Surviving the physician are his wife, Vivian Ann Redding, Marshall; four daughters, Leann Redding, Marshall, Mrs. Mary Grace McCaskill and Mrs. Marlee Hinckley, both of Dallas, and Mrs. Beverly Wherry, Longmont, Colo.; one son, William Redding, Colorado Springs, Colo.; four sisters, Mrs. Addie Mae McClendon of Abilene, Mrs. Jewel Zimmerman of Lake Charles, La., Mrs. Lora Beach of Llano, and Mrs. Amy Bronson of Louisville, Ky.; eight grandchildren and a large number of nieces and nephews.

Dr. J. W. Simons

Dr. James Wathen Simons, one of the first physicians employed by the Gulf Sulphur Company at its original exploration site in Gulf, Tex., died Feb. 22, 1973, in Wharton. A glioblastoma took the life of the 70-year-old family physician.

Born in 1903 in Bay City, Tex., Dr. Simons was the son of Annie Elizabeth Duffy and Dr. James Elmo Simons. Dr. Simons' brother, B. E. Simons, Sr., deceased, and sister, Madeline S. Bukenbach, California, are physicians. Dr. Simons attended The University of Texas at Austin and received his MD degree in 1927 from Baylor Medical College in Dallas (now Baylor College of Medicine, Houston). After an internship at Hermann Hospital in Houston, Dr. Simons joined the Texas Gulf Sulphur Company in Gulf, and became chief of staff of the Newgulf Hospital in Newgulf where he served until 1972.

Dr. Simons was active in local and state medical societies, serving as president of the Matagorda County Medical Society (1932-33), and the Wharton-Jackson County Medical Society (1942-43). He was a member of American Medical Association, Texas Medical Association, Wharton-Jackson-Matagorda-Fort Bend County Medical Society, Southwestern Surgical Congress, Texas Academy of Family Physicians, American Academy of Family Physicians, and American Geriatrics Society. He was a fellow of the American College of Surgeons.

Dr. Simons is survived by his wife, Anna Mae Kidd Simons, Wharton; and two sons, James W. Simons, Jr., Newgulf, and Robert E. Simons, DDS, Bay City.

Dr. W. H. Brandau

Retired Beaumont obstetrician, Dr. William Haller Brandau, died April 2, 1973, in St. Elizabeth Hospital, Beaumont.

A native of Clarksville, Tenn., Dr. Brandau was graduated from Southwestern University at Memphis in 1911. In 1915, he received an MD degree from Vanderbilt University Medical School, Nashville. After graduation, Dr. Brandau served in the Army Medical Corps in France during World War I. While in France, he did graduate work at Faculte mixte de Medecine et de Pharmacie Universite de Lyon, Lyon Rhone, after which he came to Beaumont to begin his practice.

A member of Texas Medical Association since 1920, Dr. Brandau also held memberships in American College of Surgeons, American Medical Association, and was a past president of Jefferson County Medical Society.

Dr. Brandau is survived by one daughter, Mrs. Zoe Eleanor Bowden, Beaumont; one sister, Mrs. Iris Gracey, Houston; and two grandchildren.

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***Indication**

Based on a review of this drug by the National Academy of Sciences—National Research Council and/or other information, FDA has classified the indication as follows:

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Contraindications: None known.

Precautions: Cases of sensitization and irritation have been reported. When noted the drug should be discontinued.

Dosage: One applicatorful intravaginally twice daily for 14 days. Course of therapy may be repeated if necessary.

Supplied: SPOROSTACIN Cream is available in 3.35 oz. (95g) tubes with the ORTHO† Measured-Dose Applicator.

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Side effects: Blurred vision, dry mouth, dysuria, and other atropine-like side effects may occur at high doses, but are only rarely noted at recommended dosages.

Dosage: *Adults:* One or two tablets three or four times daily. Dosage can be adjusted depending on diagnosis and severity of symptoms.

Children 2 to 12 years: One-half or one tablet three or four times daily. Tablets may be chewed or swallowed with liquids.

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to move,
and the Latin **sedatus,**
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Some people develop excessive psychic tension and need your counseling,

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Before deciding to make Valium (diazepam) part of your treatment plan, check on whether or not the patient is presently taking drugs and, if so, what his response has been. Along with the medical and social history, this information can help you determine initial dosage, the possibility of side effects and the ultimate prospects of success or failure.

While Valium can be a most helpful adjunct to your counseling, it should be prescribed only as long as excessive psychic tension persists and should be discontinued when you decide it has accomplished its therapeutic task. In general, when dosage guidelines are followed, Valium is well tolerated (see Dosage). For convenience it is available in 2-mg, 5-mg and 10-mg tablets.

Drowsiness, fatigue and ataxia have been the most commonly reported side effects.

Until response is determined, patients receiving Valium should be cautioned against engaging in hazardous occupations requiring complete mental alertness, such as driving or operating machinery.

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Before prescribing, please consult complete product information, a summary of which follows:

Indications: Tension and anxiety states; somatic complaints which are concomitants of emotional factors; psychoneurotic states manifested by tension, anxiety, apprehension, fatigue, depressive symptoms or agitation; symptomatic relief of acute agitation, tremor, delirium tremens and hallucinosis due to acute alcohol withdrawal; adjunctively in skeletal muscle spasm due to reflex spasm to local pathology, spasticity caused by upper motor neuron disorders, athetosis, stiff-man syndrome, convulsive disorders (not for sole therapy).

Contraindicated: Known hypersensitivity to the drug. Children under 6 months of age. Acute narrow angle glaucoma; may be used in patients with open angle glaucoma who are receiving appropriate therapy.

Warnings: Not of value in psychotic patients. Caution against hazardous occupations requiring complete mental alertness. When used adjunctively in convulsive disorders, possibility of increase in frequency and/or severity of grand mal seizures may require increased dosage of standard anticonvulsant medication; abrupt withdrawal may be associated with temporary increase in frequency and/or severity of seizures. Advise against simultaneous ingestion of alcohol and other CNS depressants. Withdrawal symptoms (similar to those with barbiturates and alcohol) have occurred following abrupt discontinuance (convulsions, tremor, abdominal and muscle cramps, vomiting and sweating). Keep addiction-prone individuals under careful surveillance because of their predisposition to habituation and dependence. In pregnancy, lactation or women of childbearing age, weigh potential benefit against possible hazard.

Precautions: If combined with other psychotropics or anticonvulsants, consider carefully pharmacology of agents employed; drugs such as phenothiazines, narcotics, barbiturates, MAO inhibitors and other antidepressants may potentiate its action. Usual precautions indicated in patients severely depressed, or with latent depression, or with suicidal tendencies. Observe usual precautions in impaired renal or hepatic function. Limit dosage to smallest effective amount in elderly and debilitated to preclude ataxia or oversedation.

Side Effects: Drowsiness, confusion, diplopia, hypotension, changes in libido, nausea, fatigue, depression, dysarthria, jaundice, skin rash, ataxia, constipation, headache, incontinence, changes in salivation, slurred speech, tremor, vertigo, urinary retention, blurred vision. Paradoxical reactions such as acute hyperexcited states, anxiety, hallucinations, increased muscle spasticity, insomnia, rage, sleep disturbances, stimulation have been reported; should these occur, discontinue drug. Isolated reports of neutropenia, jaundice; periodic blood counts and liver function tests advisable during long-term therapy.

Dosage: Individualize for maximum beneficial effect. *Adults:* Tension, anxiety and psychoneurotic states, 2 to 10 mg b.i.d. to q.i.d.; alcoholism, 10 mg t.i.d. or q.i.d. in first 24 hours, then 5 mg t.i.d. or q.i.d. as needed; adjunctively in skeletal muscle spasm, 2 to 10 mg t.i.d. or q.i.d.; adjunctively in convulsive disorders, 2 to 10 mg b.i.d. to q.i.d. *Geriatric or debilitated patients:* 2 to 2½ mg, 1 or 2 times daily initially, increasing as needed and tolerated. (See Precautions.) *Children:* 1 to 2½ mg t.i.d. or q.i.d. initially, increasing as needed and tolerated (not for use under 6 months).

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Contraindications: History of hypersensitivity to thiabendazole.
Warnings: If hypersensitivity reactions occur, drug should be discontinued immediately and not resumed. Rarely, erythema multiforme has been associated with thiabendazole therapy; in severe cases (Stevens-Johnson syndrome), fatalities have occurred. Because CNS side effects may occur quite frequently, activities requiring mental alertness should be avoided. Safe use in pregnancy or lactation has not been established.
Precautions: Ideally, supportive therapy is indicated for anemic, dehydrated, or malnourished patients prior to initiation of anthelmintic therapy. In presence of hepatic or renal dysfunction, patients should be carefully monitored.
Adverse Reactions: Most frequently encountered are anorexia, nausea, vomiting, and dizziness. Less frequently, diarrhea, epigastric distress, pruritus, weariness, drowsiness, giddiness, and headache have occurred. Rarely, tinnitus, hyperirritability, numbness, abnormal sensation in eyes, blurring of vision, xanthopsia; hypotension, collapse; enuresis; transient rise in cephalin flocculation and SGOT; perianal rash, cholestasis and parenchymal liver damage; hyperglycemia; transient leukopenia; malodor of the urine, crystalluria, hematuria; appearance of live Ascaris in the mouth and nose. Hypersensitivity reactions

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include: fever, facial flush, chills, conjunctival injection, angioedema, anaphylaxis, skin rashes, erythema multiforme (including Stevens-Johnson syndrome), and lymphadenopathy.
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The recommended maximum daily dose of MINTEZOL is 3 g (6 tablets).
MINTEZOL should be given after meals if possible. Dietary restriction, complementary medications, and cleansing enemas are not needed.
The usual dosage schedule for all conditions is two doses per day. The size of the dose is determined by the patient's weight.

Weight-dose chart:

WEIGHT (lb)	EACH DOSE (g)	TABLETS
25	0.25	½
50	0.5	1
75	0.75	1½
100	1.0	2
125	1.25	2½
150 & over	1.5	3

The regimen for each indication follows:

INDICATION	REGIMEN	COMMENTS
Pinworm disease	Two doses per day for 1 day. Repeat in 7 days. This regimen is designed to reduce the risk of reinfection.	If this is not practical, give 2 doses per day for 2 successive days.
Threadworm,* large roundworm,* hookworm,* and whipworm* disease	Two doses per day for 2 successive days.	A single dose of 20 mg/lb or 50 mg/kg may be employed as an alternative schedule, but a higher incidence of side effects should be expected.
Creeping eruption	Two doses per day for 2 successive days.	If active lesions are still present 2 days after completion of therapy, a second course is recommended.
Symptoms of trichinosis* during the invasive phase of the disease	Two doses per day for 2 to 4 successive days according to the response of the patient.	The optimal dosage for the treatment of trichinosis has not been established.

*Clinical experience with thiabendazole for treatment of each of these conditions in children weighing less than 30 lb has been limited.

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EL PASO, TEXAS: WANTED—TWO OR MORE QUALIFIED EMERGENCY DEPARTMENT PHYSICIANS to establish new group coverage in the emergency department on a fee-for-service contract basis. Attractive income assured. Modern 436 bed private hospital in southwestern community of 370,000 population. Texas license required. Emergency department experience required. Please contact Administrator, Providence Memorial Hospital, 2001 North Oregon, El Paso, Texas 79902.

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INSTITUTIONAL PHYSICIAN NEEDED ½ time—salaried. Particularly attractive for someone new to the area or perhaps retired. ½ time local association possible. For particulars, call Dr. William R. Nail, AC214-542-2623. McKinney Job Corps Center for Women, P.O. Box 750, McKinney, Texas 75069. An equal opportunity employer.

WANTED: GENERAL PHYSICIANS for Big Spring State Hospital, JCAH accredited, with affiliations with Texas Tech Medical School and Baylor College of Medicine. Salary $24,000 to $27,000 depending on experience. Liberal vacation and sick leave, holidays, regular hours, hospitalization insurance partially paid by hospital. Write or call Preston Harrison, M.D., Big Spring State Hospital, P.O. Box 231, Big Spring, Texas 79720. Equal opportunity employer.

PHYSICIANS—750 bed hospital with large medical, surgical, psychiatric services, is in need of general and some subspecialty internists, a psychiatrist, urologist, and radiologist, all preferably with certification. Located in small, medically oriented city, close to large metropolitan areas. Excellent consultation, library, and continuing medical education. Possible site for medical school. Salary competitive, ample vacation and sick leave, and fringe benefits. Equal employment opportunity agency. Apply Chief of Staff, VA Center, Temple, Texas.

WANTED: CITY-COUNTY HEALTH OFFICER. Salary $20,000-$30,000; allowing part-time private practice, Paris, Texas; population 25,000; 100 miles from Dallas. Write Richard B. Swint, M.D., Dermatology Clinic, 2510 Fitzhugh, Route 1, Paris, Texas 75460.

NEEDED—INTERNIST TO ASSOCIATE with three busy GP's in Central Texas university town. No internist in area. Should be nice place to live and work. Please reply to Ad-457, *Texas Medicine*, 1801 North Lamar Blvd., Austin, Texas 78701.

ESTABLISHED FAMILY PHYSICIAN seeking an associate. No obstetrics required. Have own x-ray, laboratory, and PT. $18,000 guaranteed, plus associates income distribution after expenses. No financial outlay necessary. Staff privileges at three San Antonio hospitals with 1,800 total beds. For further information, contact John M. Smith, Jr., M.D., 110 El Prado Drive West, San Antonio, Texas 78712, 512 824-6375.

Situations Wanted

RADIOLOGIST, board eligible, available for locum tenens July 1973. Diagnosis only. Prefer Houston or Gulf Coast locations, but will consider others. Direct responses to Ad-456, *Texas Medicine*, 1801 North Lamar Blvd., Austin, Texas 78701 or call AC713-462-8466 or AC713-771-6109.

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SOUTHEAST MEDICAL CENTER has customized suites available for immediate occupancy, 100 feet from Southeast Baptist Hospital. Ideal location in established quadrant of San Antonio where no medical specialists are offered. Only 17 minutes by freeway from downtown. Contact Manager, 4242 East Southcross, San Antonio 78222. Phone 222-2103.

SOLO GENERAL PRACTICE of 42 years. $20,000 inventory purchase price. Eight completely furnished rooms. X-ray, ECG, laboratory, etc. Four examining tables. Average 40 patients daily. Greatest bargain ever offered. Pay as you like. R. J. Van Sickle, M.D., AAFD, 700 North Fourth Street, Longview, Texas 75601. Phone AC214/758-4416 or 753-4177.

GENERAL PRACTITIONER, INTERNIST, PEDIATRICIAN, or other **specialist wanted for newly constructed professional building in booming** southwest Houston. Proximity to hospitals and freeway system. Centrally located in major growth area. Custom designed suites are available for immediate occupancy. For information contact Don Berthelsen, 8811 Frankway, Houston, Texas. Telephone AC713-664-6664.

GENERAL PRACTITIONER, Spanish speaking preferred. Due to retirement of doctor after 25 years. Excellent location near long established pharmacy. Waiting room, office and treatment rooms partially furnished, with all utilities available. Reasonable lease. Write or call Mr. Loya, 1510 Quitman, Houston; telephone 1-713-227-4645.

MEDICAL OFFICE SPACE in modern "successful" established clinic building at Stella Link and North Braeswood. Large rooms. X-ray and laboratory. No parking problems. Near freeways. Excellent for pediatrician. OB/GYN and GP. 8525 Stella Link, Houston. AC713-664-4553.

FAMILY PHYSICIAN WANTED—Assume practice of deceased physician in lucrative area of San Antonio. No payment for records or practice. Wish to lease over 2000 square feet of space on a three to five year basis. For additional information contact H. Graham Wilson, Jr., D.D.S., 6722 South Flores Street, San Antonio, Texas 78221; telephone AC512-922-2166.

FOR SALE—X-ray and Fluoroscopy Machine. Keleket 300 MA at 125 KV. 1/30th of a second timer for two tube operation. Control and transformer. Keleket 90 flash 15 degree motor-driven table with Scolv. 6½ inch by 8½ inch spot film device. Keleket rail mounted tube stand. Two Dynamax rotating anode tubes and two pair shock proof cables. 14th Floor Laboratories, Dallas, Texas 742-4501.

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In one of the most desirable areas in the Texas Gulf Coast Area. Memorial City Professional Building, in the Memorial Drive-Spring Branch Area of Houston, Texas, has just completed a fifty-seven suite addition. The Professional Building now consists of one hundred twenty offices and is connected to a new two hundred bed general hospital.

Over two hundred thousand people reside within a six mile radius of the Professional Building. The physician to population ratio is excellent to produce a rewarding private practice in virtually every specialty. Family practice especially needed. Some hospital connected opportunities.

Write or call Howard E. Troutt, Executive Director, Memorial City Medical Center, 920 Frostwood Drive, Suite 283, Houston, Texas 77024, (713) 464-2711.

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ADVERTISING & BUSINESS OFFICES: Texas Medical Association, 1801 North Lamar Blvd., Austin 78701; Telephone 512-477-6704.

PRINTING OFFICES: Texas Medicine, c/o Stafford-Lowdon Company, 1114 West Daggett, Fort Worth 76104.

Editorials

AMA: FOR PHYSICIAN AND PROFESSION

AMA membership benefits each individual physician, and the profession as well, at many levels.

It can help you overcome the business problems involved in medical practice; it sponsors practice management workshops, and also has much useful information (available from the Chicago office) which can help establish efficient practice management. The AMA provides you with lower group rates to secure health, disability, and life insurance, and also is actively working to keep down the cost of malpractice insurance. Malpractice insurance premiums in Texas are much lower than in states such as California or New York, and even lower than the rates in Arizona and New Mexico. This is not the result of a happy accident, but because the Texas Medical Association—state affiliate of AMA—has worked hard to preserve a legal and legislative malpractice system which militates against the filing of unwarranted suits.

Keeping up with continuing medical education is another knotty problem with which our medical federation can be of much help. AMA members receive *JAMA* and specialty journals free, and may also attend numerous scientific courses and seminars sponsored by county and state medical associations and the AMA.

These are just some of the things the AMA has done for you lately, and which are all too often taken for granted.

In a larger sense, the value of AMA membership is in the opportunity to help develop programs which improve the profession which has given each of us so much. The AMA has helped to develop programs to improve both graduate and postgraduate medical education for physicians.

Another priority goal of the AMA is to exert leadership in solving health care problems which transcend purely therapeutic medicine. Our guiding principle is that a free and pluralistic medical care system, supplemented by government help where necessary, is the best way to solve health care problems effectively.

When the AMA proposes programs which support this principle, it is also helping to protect *your* individual right to practice *your* kind of *medicine* in *your* kind of *setting*.

Many of the problems and criticisms that plague our profession can be traced to medical progress, since all progress involves paradox. The Brookings Institution has described this paradox as follows:

"All creative achievement is disruptive. Every partial solution promptly explodes open a new set of problems. The increasing application of science and technology means more frequent dislocations and more violent contradictions. It is ironic, but should not be surprising, that widespread criticism of the medical profession and medical care institutions should develop precisely at the time when such care is better and more accessible than ever before."

The march of medical progress got fully under way in 1910 with the publication of the now-famous Flexner report on medical education. The resultant improvements have allowed American medicine to climb to the worldwide peak of excellence in medical education. Medicine has made more progress in the past three decades than in all the centuries that went before; it has allowed us to eliminate many diseases, to moderate scores of others, and to utilize marvelous new medical and surgical techniques in fighting disease and death. Nevertheless, modern medicine is *expensive* medicine. It involves ancillary equipment and services which usually can be provided only in a clinic or hospital and these costs so greatly exceed the physician's fee that private and governmental insurance programs were developed to spread the financial risk. Still, the major health care problem now confronting this country is how to assure each citizen *access* to quality medical care at reasonable *cost*.

Proposed solutions have resulted in controversy and considerable confusion. Both the public and the government, for instance, tend to misunderstand the difference between *good health* and *good medicine*. Americans have a right to good medical care, but they do *not* have a right to good health. Good health is a shared responsibility which begins with the individual's *own personal health behavior*. Improved health behavior on the part of the average American could be more effective in raising general health levels than 100,000 new physicians or 5,000 new hospitals. We cannot reasonably expect perfect health behavior, but we *can* insist that the human body should be a status symbol worthy of at least as much care and attention as the family car.

The mistaken belief that good medicine and good health are synonymous results in another serious complication. The public and the government—believing that good health is something that physicians provide and patients consume—look at health as a commodity that can be purchased in dollar amounts. This leads to the equally false conclusion that the so-called "health care crisis" in America can be solved simply by changing the fiscal priorities of the medical care delivery system.

The Brookings Institution study warned of the danger of this kind of thinking: "The problems of medical care are clearly an interrelated complex. Methods of payment and organization are interactive. Both are shaped by basic determinants such as the progress of science and medical technology, the prevailing idea-image of the doctor-patient relationship, and surrounding circumstances. Proposals to improve the distribution of medical services solely through additional funds, without regard to the conditions of supply or the special characteristics of medical demand, may well lead to self-defeating inflation." This is exactly what happened in 1965 and 1966 with the Medicare and the Medicaid programs, which are nothing more than financing mechanisms. Of course, these programs have been of great value in providing the elderly and the poor with additional financial access to medical care, but they also resulted in "self-defeating inflation." It is highly significant that the Brookings study was published in 1962, *before* the advent of Medicare and Medicaid.

The AMA believes that a compulsory national health insurance program will lead to self-defeating inflation on a nationwide scale, because since good health is viewed as a purchasable commodity, no distinction is made between medical *wants* and medical *needs*. *Wants* demand medical *service*, while *needs* require medical *care*. Our medical care system should effectively meet the medical needs of Americans, but it is impossible to satisfy every medical want. It is true that telling the difference between medical wants and needs is part of the physician's job, but a government program which offers unlimited, subsidized access to medical care for *everyone* quickly becomes a system which tends to restrict access to care for *anyone*. This is exactly what has happened in Britain and in Canada; care is available, but waiting lists are long.

Canada's Deputy Minister of Health has been quoted by the *Wall Street Journal* as saying, "We have come to the inescapable conclusion that we have the *wrong* system."

In the US, the real and present danger of proposals such as the Kennedy-Griffiths plan is that our medical system will be forced across the thin line between *productive* medicine and *production-line* medicine. The purpose of good practice management is to increase physician productivity, but there is a limit to productivity beyond which medical practice becomes little more than a production line. This leads to a complete breakdown of the traditional physician-patient relationship, and justifiable patient complaints that their medical system is too cold and impersonal.

Some patients already are complaining along these lines, and the Brookings Institution study

says that medical technology has become our master as well as our servant. We already may be over-organized in some of our medical care delivery mechanisms. That's why many medical leaders today are calling for a reemphasis of the art as well as science of medicine—treatment of the "whole man."

Government health care proposals which promise to provide more care to more people at less cost through superefficiency can only make things worse, not better.

Medical experts the world over agree that the quality of American medicine is the finest anywhere because we played the major role in *making* it so. It follows that the best chance to minimize government control of mechanisms to moderate costs and increase access to care is to propose our *own* programs for change.

The AMA's Medicredit program would help provide access to care for all Americans, but the degree of government subsidization would be directly proportional to actual financial need. Our private, pluralistic medical care system would maintain a major share of control over delivery.

Our position is the same on PSROs, with which the government has proposed that standards of care under Medicare and Medicaid will be monitored. We did not prevent enactment of the bill, but we did get it amended so that state and local medical societies have the first opportunity to voluntarily set up PSROs.

The AMA has other proposals which will help improve the health care delivery system in America, such as proposed legislation to improve emergency medical services, and an all-out public and professional educational program to combat hypertension. Through programs such as these, our AMA membership allows us to exert collective leadership in responding to changing health care priorities.

The future of our profession and our credibility with the public are riding on how effectively we deal with today's health care problems. The physician's first responsibility is to his patients, but he also owes a responsibility to his profession and to the public. Unless he meets these responsibilities, he may end up without a profession.

For these reasons, you as an individual physician need our organized medical federation, and the federation needs your support, your strength, and your leadership. As the Brookings study has pointed out, "There is a growing and articulate body of leaders in the health professions who have not only accepted the passing of old forms of organization, but who recognize the importance of making wise choices among the available alternatives in the future. We cannot know whether the medical care patterns of the future will excel ours. We do know that they will be different. They can and should be better in view of continuing scientific and economic progress. If they are, however, it will not be an automatic development, but because those who have a concern and a stake in medical care take the trouble to understand the great historical forces involved, and deliberately seek to adapt themselves—and their institutions—to the new imperatives."

James H. Sammons, MD, Baytown, Vice-Chairman, AMA Board of Trustees.

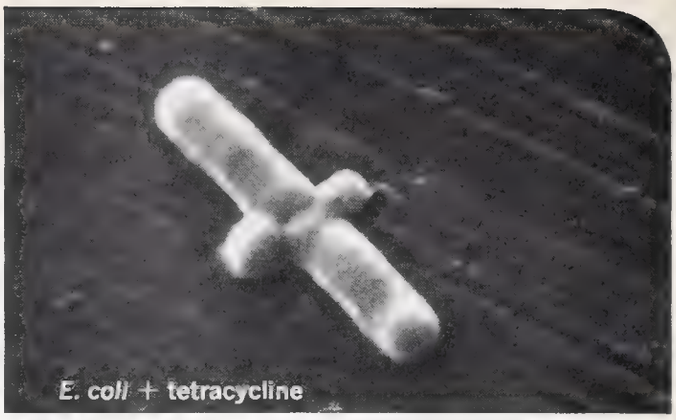
REFERENCE

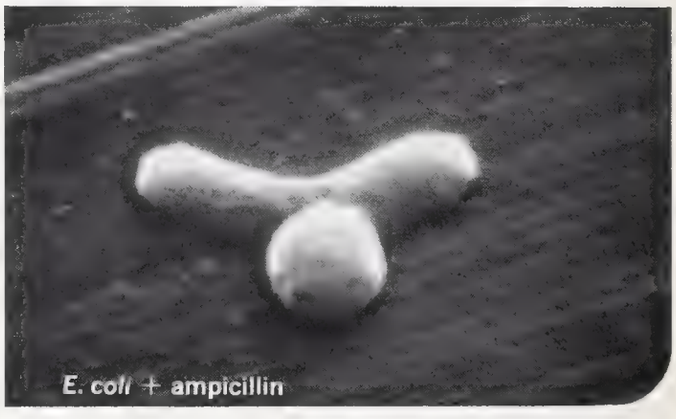
1. Somers HM, Somers AR: Doctors, Patients and Health Insurance, Brookings Institution, 1962.

Encounter under the Scanning Electron Microscope

SEM reveals changes in *E. coli* exposed to antibacterial agents

The Scanning Electron Microscope (SEM) is the only instrument which gives 3-dimensional views on a microscopic level. This permits the surface morphology of microorganisms to be observed in detailed perspective. Changes in surface morphology of *E. coli* exposed to various antimicrobial agents are seen on the following page. An SEM photomicrograph of normal control *E. coli* appears above.





Different modes of antibacterial action — Similar changes in morphology

As part of a series of experiments,[1-3] strains of *E. coli* proven susceptible to each antibacterial agent were exposed to 1 MIC of the respective antibacterials for a three-hour period. Included were cell-wall-active drugs, ampicillin and cephalothin; a drug interfering with intracellular protein synthesis, tetracycline; and a chemical agent which acts by interference with para-aminobenzoic acid, sulfamethoxazole.

As seen above, elongation of the bacilli, mid-cell defects and spheroplast-like forms may be appreciated with the SEM technique. These changes in bacterial morphology were similar... regardless of the antibacterial agent used and irrespective of its mechanism of action.

"At present, the significance of these observations in clinical infection must be considered with caution, but it is hoped that these data will stimulate a reevaluation of present concepts of the nature and role of morphological variants of bacteria exposed to a variety of antibacterial factors."[2]

It should be noted that no clinical conclusions can be drawn from this study, as it is not always possible to extrapolate *in vitro* data to humans.

References: 1. Klainer, A. S.; Fass, R. J., and Perkins, R. L.: Scientific Exhibit presented at the 25th American Medical Association Clinical Convention, New Orleans, La., Nov. 28-Dec. 1, 1971. **2.** Klainer, A. S., and Perkins, R. L.: *Antimicrob. Agents Chemother., 1*:164, 1972. **3.** Klainer, A. S.: Data on file, Hoffmann-La Roche Inc., Nutley, N.J.

Before prescribing, please consult complete product information, a summary of which follows:

Indications: Acute, recurrent or chronic nonobstructed urinary tract infections (primarily pyelonephritis, pyelitis and cystitis) due to susceptible organisms. **Note: Carefully coordinate *in vitro* sulfonamide sensitivity tests with bacteriologic and clinical response; add aminobenzoic acid to follow-up culture media. The increasing frequency of resistant organisms limits the usefulness of antibacterials including sulfonamides, especially in chronic or recurrent urinary tract infections.** Measure sulfonamide blood levels as variations may occur; 20 mg/100 ml should be maximum total level.

Contraindications: Sulfonamide hypersensitivity; pregnancy at term and during nursing period; infants less than two months of age.

Warnings: Safety during pregnancy has not been established. Sulfonamides should not be used for group A beta-hemolytic streptococcal infections and will not eradicate or prevent sequelae (rheumatic fever, glomerulonephritis) of such infections. Deaths from hypersensitivity reactions, agranulocytosis, aplastic anemia and other blood dyscrasias have been reported and early clinical signs (sore throat, fever, pallor, purpura or jaundice) may indicate serious blood disorders. Frequent CBC and urinalysis with microscopic examination are recommended during sulfonamide therapy. Insufficient data on children under six with chronic renal disease.

Precautions: Use cautiously in patients with impaired renal or hepatic function, severe allergy, bronchial asthma; in glucose-6-phosphate dehydrogenase-deficient individuals in whom dose-related hemolysis may occur. Maintain adequate fluid intake to prevent crystalluria and stone formation.

Adverse Reactions: *Blood dyscrasias* (agranulocytosis,

Encounter in Clinical Practice

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Subsequent 1-Gm doses provide up to 12 hours of antibacterial coverage. More severe u.t.i. may require a q. 8 h. dosage regimen. Either schedule provides coverage during the waking and sleeping hours—especially important during hours of sleep when normal urinary retention tends to favor bacterial proliferation.

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It is not uncommon for the elderly and the debilitated to develop chronic and/or recurrent nonobstructed urinary tract infections such as pyelonephritis and cystitis. Such cases often respond satisfactorily to Gantanol. The increasing frequency of resistant organisms is a limitation of usefulness of antibacterial agents including sulfonamides, especially in chronic or recurrent u.t.i.

Your Option: Tablets or Suspension

Either dosage form—the Tablets or the pleasant-tasting, cherry-flavored Suspension—can provide the dependable antibacterial activity necessary to control susceptible nonobstructed cystitis and pyelonephritis. Symptomatic improvement may usually be expected in 24 to 48 hours. The usual precautions with sulfonamide therapy should be observed, including adequate fluid intake. Gantanol (sulfamethoxazole) is generally well tolerated with relative freedom from complications; the most common side effects are nausea, vomiting and diarrhea. Frequent c.b.c.'s and urinalyses with microscopic examination are recommended.

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aplastic anemia, thrombocytopenia, leukopenia, hemolytic anemia, purpura, hypoprothrombinemia and methemoglobinemia); *allergic reactions* (erythema multiforme, skin eruptions, epidermal necrolysis, urticaria, serum sickness, pruritus, exfoliative dermatitis, anaphylactoid reactions, periorbital edema, conjunctival and scleral injection, photosensitization, arthralgia and allergic myocarditis); *gastrointestinal reactions* (nausea, emesis, abdominal pains, hepatitis, diarrhea, anorexia, pancreatitis and stomatitis); *CNS reactions* (headache, peripheral neuritis, mental depression, convulsions, ataxia, hallucinations, tinnitus, vertigo and insomnia); *miscellaneous reactions* (drug fever, chills, toxic nephrosis with oliguria and anuria, periarteritis nodosa and L.E. phenomenon). Due to certain chemical similarities with some goitrogens, diuretics (acetazolamide, thiazides) and oral hypoglycemic agents, sulfonamides have caused rare instances of goiter production, diuresis and hypoglycemia as well as thyroid malignancies in rats following long-term administration. Cross-sensitivity with these agents may exist.

Dosage: Systemic sulfonamides are contraindicated in infants under 2 months of age (except adjunctively with pyrimethamine in congenital toxoplasmosis).

Usual adult dosage: 2 Gm (4 tabs or teasp.) initially, then 1 Gm *b.i.d.* or *t.i.d.* depending on severity of infection.

Usual child's dosage: 0.5 Gm (1 tab or teasp.)/20 lbs of body weight initially, then 0.25 Gm/20 lbs *b.i.d.* Maximum dose should not exceed 75 mg/kg/24 hrs.

Supplied: Tablets, 0.5 Gm sulfamethoxazole; Suspension, 0.5 Gm sulfamethoxazole/teaspoonful.

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Texas Medical Foundation: The Basics

Through the herculean efforts of the task force headed by Dr. Joseph T. Painter of Houston, and the Board of Trustees chaired by Dr. John M. Smith, Jr., of San Antonio, the Texas Medical Foundation has been born. The concepts and basic principles of the Texas Medical Foundation are a result of many hours and many meetings of the two groups. The Texas Medical Foundation will be an autonomous corporation, sponsored and organized by the medical society, with membership open to all licensed physicians who voluntarily apply. One of the main words in the preceding statement is "voluntarily." No physician who practices medicine in Texas will be forced into the Foundation, nor will his present mode of practice be changed in any way if he does not wish to voluntarily join this organization. The broad purposes of the Texas Medical Foundation are: preservation of physician-patient relationships, perpetuation of freedom of choice for patient and physician, promotion of distribution of medical and health services to people of Texas, and protection of public health. The TMF also will provide for negotiation of contracts with third parties, supervision and management of medical service plans, coordination of uniform standards of medical care among member foundations, establishment of fair hearings procedures, and maintenance of information on all programs for medical care. Immediately it is obvious that this organization can act collectively for its members in Texas. Thus, the voice of medicine will be heard as a concentrated chorus of approximately 11,500 Texas physicians.

The Texas Medical Foundation will not have the responsibility nor authority to contract for any individual physician's services to deliver any medical care. It will not act as a professional standards review organization and will continue to foster and encourage fee for service and direct billing concepts. In this manner the Texas Medical Foundation can act to prevent third-party carriers from interfering in the physician-patient relationship. No longer will physicians be scapegoats for insurance companies in their attempts to sell our services at fees which they have set as "usual."

The physician members of the Texas Medical Association can be justly proud of the efforts of Dr. Painter's task force and the Board of Trustees chaired by Dr. John Smith. We will be grateful for their efforts for many years to come.

Charles B. Dyess M.D.

President,
Texas Medical Association.

Texas Medicine

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Medical legislation - Wrap-up report

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Subscriptions: $3 per year for members; $6 for nonmembers; $8 for foreign; $5 for libraries, hospitals, and universities; $3 for medical students. Single copy: $1.

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ON THE COVER

The subject is renal diseases, and our guest editor this month is Dr. G. Eknoyan, associate professor of medicine at Baylor College of Medicine, Houston. The articles in this issue were presented at the Symposium on Management of Renal Disease held in Houston in November 1972.

NEXT MONTH

Articles scheduled for August include cross-species transmission of mammalian RNA tumor viruses; psychogenic chest pain; chest pain and abnormal post-exercise electrocardiograms with normal coronary arteriograms in patients with click-late systolic murmur syndrome; recurrent slow sinoatrial node dysfunction; myocardial infarction in the presence of normal coronary arteries; pediatrics grand rounds; duodenoscopy in diagnosis of occult peptic ulcer disease; low vision aids; and use of Water-Pik for acute treatment of chemical burns of the eye.

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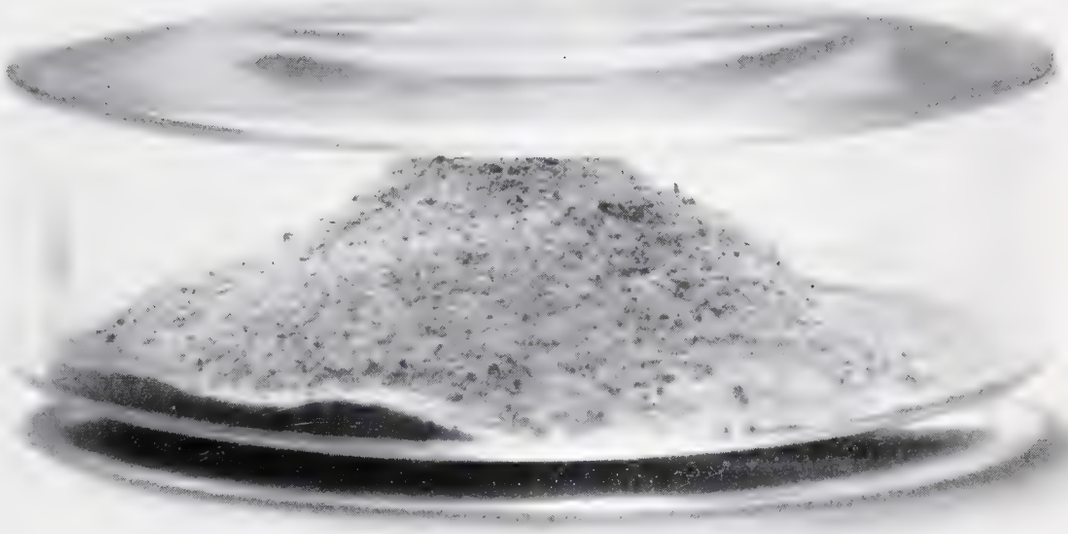

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NEWS

Medical legislation: a report on the 63rd session

The 63rd regular session of the Texas Legislature is over, and, in retrospect, the practice of medicine in Texas probably fared well at the hands of the lawmakers.

Almost 300 of the 2,843 House and Senate bills and joint resolutions were considered "important" to the Texas Medical Association. Among these, measures which were defeated or did not pass included drug substitution, certificate of need legislation, and modifications of the Medical Practice Act which would have allowed profit-making lay corporations to establish and administer health maintenance organizations. Also defeated was a measure to require all accident and health insurance policies issued in Texas to include the services of chiropractors in their coverage.

The efforts of TMA legal staff and of physicians throughout the state were very effective in the defeat of these and other proposals. By the same token, these efforts helped to pass several proposals which were supported by TMA.

House Bill 683, sponsored by Reps. Bill Heatly, Jim Nugent, et al, was supported by TMA as one method of helping to ease the manpower distribution problem in the state. Under the provisions of the new law, which has been signed by the Governor, the Texas Medical Education Board will be established. The board has constitutional powers to make gifts, grants, and scholarships to medical students who agree to practice medicine in Texas counties with populations of 25,000 or less. A student who practices five years in the rural area will have the entire cost of his medical education forgiven by the state. The board will be made up of three physicians who practice in rural areas.

Another bill which has been signed into law by Gov. Briscoe will require that all accident and health insurance policies which include maternity benefits issued in Texas include coverage for newborn infants from the moment of birth. This law will go into effect in 90 days. Both the TMA Council on Medical Jurisprudence and the House of Delegates supported the bill.

After lengthy negotiations, House Bill 50, authorizing Midwestern University of Wichita Falls and Sheppard Air Force Base to enter into joint training programs, was passed. The new law will allow civilian students from Midwestern to enroll in medical technology programs at Sheppard, and will allow Sheppard students to receive

BILL NO.	DESCRIPTION	TMA POSITION	ACTION
SB 647 (Schwartz)	Permits HMOs if all members of board of directors are physicians	Supported	Not reported out of subcommittee
HB 1393 (Allen)	Same as SB 647	Supported	Laid on table by committee
HB 1295 (Hernandez)	Amendments to statutes relating to HMOs	Opposed	Laid on table by author
HB 1488 (Leland)	Permitting for profit HMOs	Opposed	Never reached House floor for vote
SB 212 (Blanchard, Wallace)	Amending Dangerous Drug Act (Briscoe bill)	Supported with amendments	See HB 447
HB 447 (Von Dohlen)	Same as SB 212	Supported final bill	Passed
SB 170 (Ogg)	Drug substitution (formulary)	Opposed	Never reported out of committee
SB 371 (Gammage)	Similar to SB 170	Opposed	Never reported out of subcommittee
HB 546 (Leland)	Similar to SB 170	Opposed	Died in committee
HB 683 (Heatly et al)	Medical Education Board	Supported	Passed
SB 380 (Ogg)	Certificate of need	Opposed	Never reported out of committee
HB 512 (Cavness)	Same as SB 380	Opposed	Never placed on calendar
SB 277 (Brooks, Traeger)	Mandatory chiropractic coverage	Opposed	Never reported out of committee
SB 42 (Brooks)	Expansion of Board of Health	Opposed	Never reported out of committee
HB 304 (Nichols)	Expansion of Board of Health	Opposed	Failed to suspend rules to bring up out of order
SB 762 (Brooks)	Expansion of Board of Health	Opposed	Never reported out of committee
SB 854 (Snelson)	Newborn coverage	Supported	Passed
HB 50 (Allred)	Medical technicians training program	Supported with changes	Conference committee report passed
HB 175 (Vecchio)	Removal of immunity for peer review	Opposed	Never reported by sub-committee
HB 374 (Vecchio)	Allow textbook as evidence in malpractice	Opposed	Never reported by sub-committee
HB 672 (Vecchio)	Extension of statute of limitations	Opposed	Never reported by sub-committee
HB 713 (Vecchio)	Penalties for MDs who don't report abused children	Opposed	Laid on table by committee
HB 1414 (Semos)	Penalties for all who don't report abused children	Supported	Passed
SB 392 (Snelson)	Membership of State Commission for the Blind	Supported	Passed
SB 370 (Gammage)	To require some OTC drugs to be sold by prescription	Supported	Vetoed by Governor as included in HB 447
HB 498 (Leland)	To require detail men to be pharmacists or pharmacologists	Opposed	Never reported out of committee
HB 756 (Leland)	To require patient profiles by pharmacists	Opposed	Never cleared by Calendar Committee
HB 757 (Leland)	To prohibit sale of drugs without bio-availability information	Opposed	Never reported out of committee
HB 573 (Leland)	Limiting prescription of amphetamines	Opposed	Passed Senate as amended; did not pass House

NEWS

credit from Midwestern.

After an effort was made to prevent training in any area relating to optometry and ophthalmologic technicians, the original bill was amended to restrict training in vision and eye care only to the extent that no training will be given in the prescribing of drugs or lenses, nor will training be given at Sheppard which is not presently being offered. This compromise eliminated the so-called "Duffy Amendment" by which a non-medical group discriminated against a medical specialty.

In other areas, an effort to expand the number of members of the State Board of Health failed. TMA supported the addition of a hospital administrator, a registered nurse, and a veterinarian, but opposed further expansion.

Several bills were introduced which would have broadened the liability of physicians both in malpractice litigation and in service on hospital committees and peer review organizations. The three major bills on this topic were opposed by TMA and were referred to the same sub-committee, which never reported on them, thus allowing them to expire at the end of the session.

Other proposals and actions taken include:

Abortion: Although a number of bills relating to this topic were introduced, none passed both houses. Thus, the status of abortion remains as outlined by the US Supreme Court.

Children: House Bill 1414 by Semos passed both houses of the Legislature. It provides penalties for the failure of any person to report abused or neglected children. A bill providing penalties only for physicians for failing to report such situations was opposed by TMA on the grounds that it was discriminatory. This bill, HB 713 by Vecchio, did not pass.

Commission for the Blind: Senate Bill 392 by Snelson passed both Houses; it prohibits any practitioner of the healing arts from being on the State Commission for the Blind. TMA testified in favor of the measure in view of the fact that the commission has always been a layman board, and on the grounds that the Snelson bill would eliminate an optometrist being appointed to a board which contracts for the services of both ophthalmologists and optometrists, a problem encountered this session.

Drugs: In addition to efforts to pass a drug substitution bill, several other drug legislation measures were considered.

Senate Bill 370 by Gammage would have required certain drugs

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NEWS

which were previously sold over the counter to be sold only by prescription. This bill (as included in Controlled Substances Act) was vetoed by the Governor.

Other drug bills included one which would have required all "detail men" to be pharmacologists or licensed pharmacists. This bill failed. House Bill 756 by Leland would have required pharmacists to complete extensive patient profiles before refilling prescriptions. Pharmacists could have required physicians to provide information for the profiles or suffer a criminal penalty. TMA opposed this bill, and although it was reported out of committee, it never cleared the Calendar Committee for a floor vote.

Other drug-related measures which failed included House Bills 757 and 573, also by Leland. HB 757 would have prohibited the sale of any drug after 1976 which did not have bioavailability information. HB 573 would have prohibited the prescription of amphetamines, except for the treatment of certain ailments. This bill passed the Senate in an amended version, but it did not pass the House.

Licensing of allied health groups: A number of bills were offered during this session which proposed licensing of various occupations. Included among the groups which the proposals sought to regulate were clinical social workers (psychotherapists); electrologists; massage therapists; nurses aides; physicians' assistants; radiologic technologists; and speech therapists and audiologists. TMA opposed all of the proposals which did not include exemptions for physicians and those who are under the control and supervision of licensed physicians, and which did not include a provision relating to the prohibition of the practice of medicine. None of the proposals passed both houses.

Public health: Several bills were passed which related to the general area of public health. Among measures which succeeded were SB 116 by Schwartz directing the State Department of Health to develop a program to combat pediculosis, and SB 386 by Herring creating a state program relating to kidney diseases. Also passed was SB 614 by Patman setting up permissive authority for a rubella testing program. House Bill 958 by Lombardino will allow tax exemptions for ileostomy, colostomy, and ileal bladder appliances. Also passed were measures which will recodify laws relating to the reporting of venereal disease; set times within which an autopsy report must be filed; and recodify laws relating to Department of Health permits regarding death.

For further information on any specific bill, TMA members may write the TMA Legal Staff, 1905 N. Lamar Blvd, Austin 78705, or call 512-478-1659.

Correction

In the article, "Is Myasthenia Gravis an Autoimmune Disease?," by Dr. John W. Chriss (May 1973 issue, pp 72-74), two statements should be deleted. Both appear in the second paragraph on page 74; they are:

". . . If the patient has had immunosuppressive therapy, thymectomy is contraindicated."

". . . Previous radiation therapy for myasthenia gravis is a contraindication to thymectomy, as is treatment with germine monoacetate and diacetate."

In addition to the correction, the author has provided further information about the case. The patient is now taking 12.5 mg of prednisone every other day; on alternate days she is taking Mestinon, 60 mg, three doses of 60 mg each. She has been an outpatient for more than a year, and considering the seriousness of her illness, her expenses have been minimal since her hospital discharge. She purchases Mestinon and visits the physician in his office about every six weeks. Thus far, the prednisone has been provided for her without charge.

Locker, Williston ask funding for med schools

Texas A&M University at College Station has been designated to administer a new medical school program authorized by the Veteran's Administration Medical School Assistance and Health Manpower Training Act of 1972. The designation was made by the Program Development Committee of the Coordinating Board, Texas College and University System.

At the same time, the Program Development Committee urged the Legislature to continue full funding of Texas' six existing medical schools so they can increase enrollment capacity and continue expansion plans.

That recommendation came after TMA Past President Braswell Locker and Executive Secretary C. Lincoln Williston appeared before the committee to explain TMA's recommendations concerning medical manpower in the state.

Dr. Locker told the committee of three recommendations which have been endorsed by the TMA House of Delegates. He appealed to the committee to provide more financial support to the state's six medical schools and to help insure adequate funding for expansion programs which are already underway. In addition, he asked the committee to support funding requests from medical schools for the education and training of more primary care physicians.

Dr. Locker told committee members of TMA's feeling that existing medical schools can provide enough physicians for Texas as long as their programs are fully funded and complemented by recruitment of physicians from other states. He emphasized that TMA does not support, and does not wish to ask taxpayers to support, the financing of new medical schools. It is TMA's position that manpower needs can be met more economically by full funding of existing schools.

Executive Secretary Williston reviewed for the Committee some of the highlights of the Association's manpower studies as a background for Dr. Locker's presentation.

The law which will allow Texas A&M to administer a new medical school was signed by President Nixon in October 1972, but Congress has not yet provided funds to run the program, which calls for eight new state medical schools to be operated in conjunction with VA facilities.

TMA Executive Board schedules August meeting

The first meeting of TMA's newly-constituted Executive Board will be held Aug 11-12 in Austin.

Tentative topics on the board agenda include discussions of the role of the Executive Board and frequency of meetings; discussion of assuming responsibility for reviewing the association's organizational structure, including the need for addition of new committees and elimination of others; and the role of the Executive Board as the association's long-range planning body.

In addition, the board will hear reports and possible requests for action from four Councils which will meet this summer. Councils which have scheduled summer meetings include the Council on Annual Session, Council on Tax-Financed Health Care Programs; the Council on Public Service and Communication; and the Council on Medical Service and Insurance.

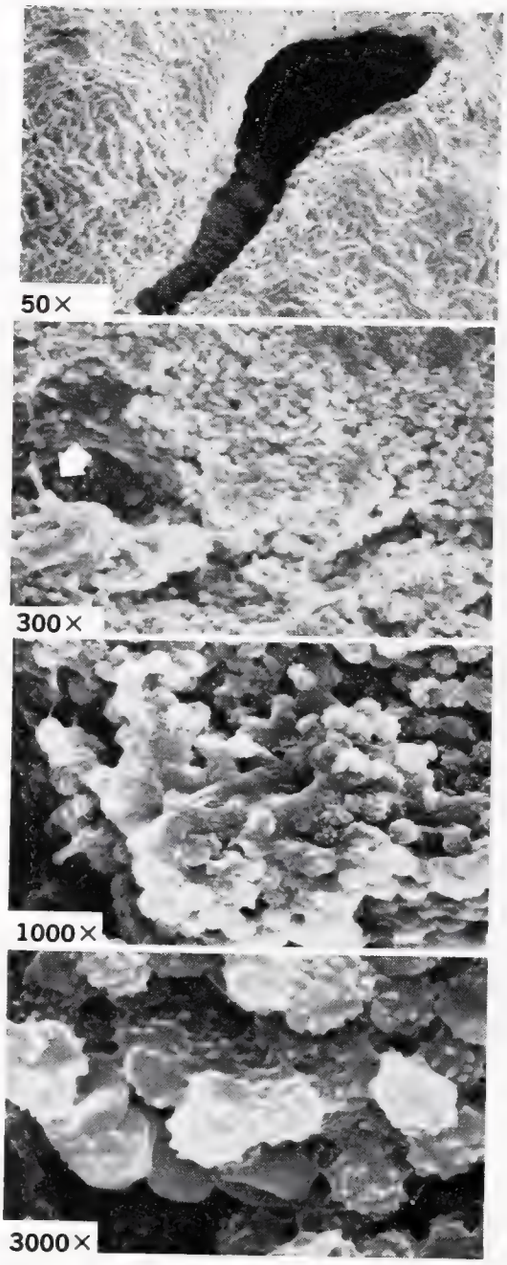
Members of the Executive Board are Drs. Charles B. Dryden, Paul R. Meyer, Ed Schmidt, Braswell Locker, Byron P. York, Sr., Charles P. Hardwicke, Jack B. Lee, Travis Smith, N. L. Barker, and Joe T. Nelson.

Also, Drs. Sam N. Key, Jr., Charles W. Yates, Don G. Harrel, Charles Max Cole, R. Harvey Bell, Joseph T. Ainsworth, Haden E. McKay, Dick K. Cason, Milton V. Davis, Carlos D. Godinez, and Joseph T. Painter.

Progress in Diagnosis

In these illustrations of tissue from a patient with acute cystitis, you can see the swollen and inflamed mucosa of the ureteral orifice (50×), a fibrin strand (300×), and a whitish exudate composed of polymorphonuclear leukocytes (1000× and 3000×). The photographs were taken with the scanning electron microscope (SEM) by Dr. Shirley Siew, Associate Professor of Pathology at the University of Pittsburgh School of Medicine. They come from the clinical exhibit "Scanning Electron Microscopy of Urinary Tract Infection," which won first prize in Clinical Research at the May 1972 meeting of the American Urological Association.

The scanning electron microscope promises to be extremely useful in its investigation of human pathology. In time, examination of tissue with the SEM is likely to play a significant role in the diagnosis of urinary tract infection.



A note on the photography:
These photographs were made by the scanning electron microscope, which, like the transmission electron microscope, operates on the basic principle of exposure of tissue to a beam of electrons in a vacuum. With the SEM, electrons bombard the surface of tissue which has been given a fine coating of gold. The electrons reflect off the tissue onto a television screen, and the resulting photograph shows a three-dimensional effect. The tissue sections need not be ultrathin, so there is a minimum of handling and distortion.

Just as much an instrument of progress and just as helpful in its way has been Gantrisin (sulfisoxazole) Roche, developed and introduced a generation ago. However, there's been no generation gap over its continuing usefulness. In fact, Gantrisin, with so many years of clinical experience behind it, is still one of the most valuable drugs we have for the treatment of nonobstructed cystitis, pyelitis or pyelonephritis due to susceptible organisms such as *E. coli*. Specifically, Gantrisin provides your patients with certain important therapeutic advantages:

Before prescribing, please consult complete product information, a summary of which follows:

Indications: Nonobstructed urinary tract infections (mainly cystitis, pyelitis, pyelonephritis) due to susceptible organisms. **IMPORTANT NOTE: *In vitro* sensitivity tests not always reliable; must be coordinated with bacteriological and clinical response. Add aminobenzoic acid to follow-up culture media. Increasing frequency of resistant organisms limits usefulness of antibacterial agents, especially in chronic and recurrent urinary infections.** Maximum safe total sulfonamide blood level, 20 mg/100 ml; measure levels as variations may occur.

Contraindications: Hypersensitivity to sulfonamides; infants less than 2 months of age; pregnancy at term and during the nursing period.

Warnings: Safety in pregnancy not established. Do not use for Group A beta-hemolytic streptococcal infections, as sequelae (rheumatic fever, glomerulonephritis) are not prevented. Deaths reported from hypersensitivity reactions, agranulocytosis, aplastic anemia and other blood dyscrasias. Sore throat, fever, pallor, purpura or jaundice may be early indications of serious blood disorders. CBC and urinalysis with careful microscopic

References: 1. Bran, J. L.; Karl, D. M., and Kaye, D.: *Clin. Pharmacol. Ther., 12*:525, 1971. **2.** Burke, E. C., and Stickler, G. B.: *Mayo Clin. Proc., 44*:318, 1969. **3.** Hibbard, L. T., in Bulger, M. J., *et al.: Patient Care, 1*:(3) 47, 1967. **4.** Holloway, W. J.; Furlong, J. H., and Scott, E. G.: *J. Urol., 102*:249, 1969. **5.** House, T. E., *et al.: Obstet. Gynecol., 34*:670, 1969. **6.** Lampe, W. T.: *J. Am. Geriatr. Soc., 16*:798, 1968. **7.** Moffat, N. A., and Wenzel, F. J.: *Curr. Ther. Res., 13*:286, 1971. **8.** Normand, I. C. S.: *Practitioner, 204*:91, 1970. **9.** Pryles, C. V.: *Med. Clin. North Am., 54*:1077, 1970. **10.** Seneca, H.; Peer, P., and Warren, B.: *J. Urol., 99*:337, 1968. **11.** Trafton, H. M., and Lind, H. E.: *J. Urol., 101*:392, 1969. **12.** Cohen, M.: *Pediatrics, 50*:271, 1972.

acute cystitis:

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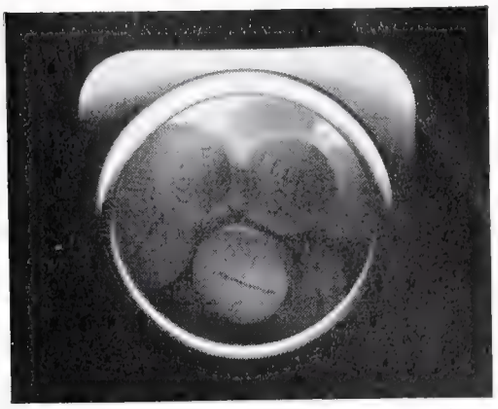
generally good tolerance Gantrisin causes relatively few undesirable reactions, and serious toxic reactions are rare. Minor reactions are comparatively infrequent, but may include nausea, headache and vomiting. Hence, Gantrisin may usually be given even for extended periods when treating chronic or recurrent nonobstructed cystitis, pyelitis or pyelonephritis due to *E. coli* and other susceptible organisms. (See Important Note in summary of product information.) Complete blood counts and urinalyses, with careful microscopic examination, should be performed frequently.



high solubility Gantrisin (sulfisoxazole) Roche is one of the most soluble of all sulfonamides, with both free and acetylated forms highly soluble in the commonly encountered urinary pH range of 5.5 to 6.5. Urine levels have been detected in 60 minutes; therapeutic levels are usually reached in from 2 to 3 hours. About 90% of a single dose is excreted in 24 to 48 hours. As with all sulfonamides, adequate fluid intake must be maintained.

economy Average cost of therapy is still only about 6½¢ per tablet.

total therapy: 14 days Recent evidence in the medical literature suggests that therapy in acute nonobstructed urinary tract infections should be continued for 10 to 14 days even if patients become asymptomatic in 2 or 3 days, as they often do.[1-11] However, one investigator, evaluating a 5-year study of sulfisoxazole used to treat urinary tract infection in 368 girls, found no advantage in continuing therapy more than two weeks *for a first infection.*[12]

For acute, chronic or recurrent nonobstructed cystitis, pyelitis, or pyelonephritis due to susceptible organisms...

begin with

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sulfisoxazole/Roche®

Usual adult dosage: 4 to 8 tablets *stat*
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examination should be performed frequently.

Precautions: Use cautiously in patients with impaired renal or hepatic function, severe allergy or bronchial asthma. Hemolysis, frequently dose-related, may occur in glucose-6-phosphate dehydrogenase-deficient patients. Maintain adequate fluid intake to prevent crystalluria and stone formation.

Adverse Reactions: *Blood dyscrasias:* Agranulocytosis, aplastic anemia, thrombocytopenia, leukopenia, hemolytic anemia, purpura, hypoprothrombinemia and methemoglobinemia; *Allergic reactions:* Erythema multiforme (Stevens-Johnson syndrome), generalized skin eruptions, epidermal necrolysis, urticaria, serum sickness, pruritus, exfoliative dermatitis, anaphylactoid reactions, periorbital edema, conjunctival and scleral injection, photosensitization, arthralgia and allergic myocarditis; *Gastrointestinal reactions:* Nausea, emesis, abdominal pains, hepatitis, diarrhea, anorexia, pancreatitis and stomatitis; *C.N.S. reactions:* Headache, peripheral neuritis, mental depression, convulsions, ataxia, hallucinations, tinnitus, vertigo and insomnia; *Miscellaneous reactions:* Drug fever, chills and toxic nephrosis with oliguria and anuria. Periarteritis nodosa and L.E. phenomenon have occurred. Due to certain chemical similarities with some goitrogens, diuretics (acetazolamide, thiazides) and oral hypoglycemic agents, sulfonamides have caused rare instances of goiter production, diuresis and hypoglycemia as well as thyroid malignancies in rats following long-term administration. Cross-sensitivity with these agents may exist.

Supplied: Tablets containing 0.5 Gm sulfisoxazole.

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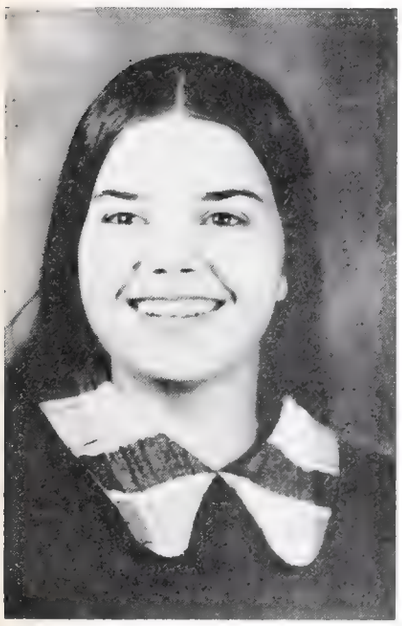

Dr. Margaret Turkleson, winner of Gold-Headed Cane Award.

Dr. Barbara Elizabeth Murray, winner of Ho Din Award.

Texas schools graduate 476 new physicians

Texas medical schools produced 476 new physicians this year.

The University of Texas schools at Galveston, San Antonio, and Dallas granted 12% more MD degrees than last year with another increase yet to come this year. Baylor College of Medicine, with its 111 new physicians, had the largest graduating class in the school's 73-year history.

Besides an increase in numbers, other milestones were achieved by this year's graduates. At Baylor, the first 12 students to complete their medical education under the three-year curriculum were graduated. And, at UTMB and Southwestern, women physicians walked off with top honors. Margaret L. Turkleson, graduating senior at UTMB, received the coveted Gold-Headed Cane Award, presented to the student whom classmates feel best epitomizes the ultimate in patient care. And in Dallas, Dr. Barbara Elizabeth Murray received the Ho Din Award from Southwestern Medical Foundation "in recognition of qualities of intellect and human feeling which are combined in great physicians." Dr. Murray is the daughter of Dr. Grover E. Murray, president of Texas Tech University at Lubbock, and Mrs. Murray.

What are the new physicians like? According to Dr. Jack B. Lee, speaker of the TMA House of Delegates, they're pretty impressive. Dr. Lee served as organist for graduation exercises at UT San Antonio, and here's what he has to say about the new crop of MDs:

"I must confess that I have been somewhat skeptical about the new medical school curriculum in which anatomy as I knew it is de-emphasized, the senior year is primarily elective, and the rotating internship is obsolete. I am, however, no longer skeptical. The new doctors of medicine are at least equal (and perhaps even superior), in knowledge, ability and in maturity to their counterparts of yesteryear; and they are indeed well prepared and duly qualified to continue the delivery of first-class medical and surgical care to the citizens of our nation."

Many of the new physicians will remain in Texas for internships and residencies. Of the 101 San Antonio graduates, 58 plan to stay in Texas, and 32 of these will remain in the San Antonio area. Seventy percent of Baylor's 111 graduates plan internships and residencies in the state.

The number of graduates at each school is as follows: UT Southwestern, 104; UT San Antonio, 101; UT Galveston, 160; and Baylor, 111. The University of Texas Medical School at Houston will graduate its first class this December. There are 22 candidates for the MD degree in December. Another group of seniors will graduate in June 1974.

FDA postpones effective date for radiation protection standard

Diagnostic x-ray equipment and the FDA are in the news again. This time, the FDA has announced that the effective date of the mandatory federal radiation protection standard for diagnostic x-ray equipment has been extended one year—from Aug. 15, 1973, to Aug. 1, 1974.

Early last fall, FDA published the new regulations in the *Federal Register*. At first the rule applied only to new equipment and components manufactured after Aug 15, 1973. Later, the rules were broadened to include components for used equipment. Articles on the standard and changes to it were published in the October and December 1972, and April 1973 issues of *Texas Medicine*.

The federal agency says the deadline has been extended because of requests of public radiation control agencies and representatives of industry, medicine, and dentistry. Sixteen of eighteen state and local radiation control agencies submitted letters in support of the extension.

According to FDA spokesmen, the

principal patient protection provisions of the standard require machines to be capable of restricting the x-ray beam to the size of the film or fluoroscopic image receptor. The standard also contains provisions intended to make it possible for operators to reproduce more consistently a given image quality for given voltage, current, and time settings.

Some of the objections raised against the August deadline included the necessity for some states to revise state regulations and beef up enforcement procedures; the need for additional time to redesign and redevelop equipment; and the possibility of shortage of equipment which could be caused by having to develop new equipment.

Workmen's Comp changes will affect physicians

Members of TMA's Committee on Workmen's Compensation and Industrial Health have been invited to attend a July 23 hearing of the Industrial Accident Board (IAB) to ask for clarification of changes in the Workmen's Compensation law that make physicians who treat injured workmen subject to new reporting requirements and possible penalties. The amendments to the law were made during the 63rd regular session of the Texas Legislature.

The amended law states that physicians or chiropractors who render medical or chiropractic care to an injured workman must file an initial report "as soon as practical identifying the injured workman and stating the nature and extent of the injury." In addition, the physician is required to file subsequent reports "reasonably necessary to keep the status of the claimant's condition known." Copies of all of the reports must be sent to the Industrial Accident Board(IAB), the insurance carrier, and the injured workman.

If the physician fails to make such reports, the amended law states that neither the insurance carrier nor the injured workman will be obligated to pay for the physician's services. This section will become effective Sept 1, 1973.

Dr. Richard D. Smith of Lubbock is chairman of the TMA committee.

The delegation will be seeking guidelines for when it is "practical" to submit the first report, and on the frequency and type of report which is "reasonably necessary" thereafter. The IAB guidelines will be formulated before the Sept 1 deadline, and TMA members will be advised on the required procedure before that date.

Another amendment gives the injured workman the sole right to choose "the persons or facilities to furnish aid, chiropractic services, hospital services, and nursing . . ." The insurance carrier is obligated to be responsible for all necessary services, except that the law provides that, "The obligation of the association to be responsible for hospital services as herein provided shall not be held to include any obligation on the part of the association to pay for medical, nursing or surgical services not ordinarily provided by hospitals as a part of their services." This portion of the act also becomes effective Sept 1, 1973.

Effective Jan 1, 1974, employees of any person, firm or corporation which employs fewer than three employees will be covered by Workmen's Compensation. This change was made in the law by deletion rather than addition. Excluded from coverage are domestic servants or "casual employees engaged in employment incidental to a personal residence," farm and ranch laborers, and employees "of any person, firm, or corporation operating any steam, electric, street, or interurban railway as a common carriers."

In another change, it is provided that if it is shown that "the life, health or recovery" of an employee is being endangered by medical aid, chiropractic services and medicines being provided, the IAB may order a change in the physician, chiropractor, or

NEWS

other services only after holding a hearing. If the employee should not comply with the change after it is ordered by the IAB, the board may relieve the carrier of the responsibility of paying for the services until the employee complies with the order.
Other changes will provide a higher amount of weekly compensation for injured workmen or for their survivors, and in some cases, the amended law lengthens the amount of time a workman or his survivors may receive compensation.
TMA members will be advised of IAB interpretations of the amended law as soon as the information is available.

2 UTMB graduates win Texas Medicine Award

Original scientific articles written by two fourth-year students at The University of Texas Medical Branch at Galveston have been given special recognition by the Texas Medical Association.
Selected as winner of the eighth annual *Texas Medicine* award for excellence in scientific writing by a Texas medical student is E. Stanton Shoemaker, who received his MD degree June 3 from the Galveston medical school.
Second place winner of the TMA award is Michael H. Malloy, who also is a 1973 graduate of UT Medical Branch.
In addition to having their articles published in TMA's monthly scientific journal, each winner is awarded a certificate and a cash prize. First place earns $300 and the second place winner receives $100.
A native of Houston, Shoemaker attended UCLA and received his BA degree from The University of Texas at Austin. He spent a five month elective period last year studying plastic surgery in Sweden and obstetrics and gynecology in South Africa. Shoemaker will begin an internship at Parkland Memorial Hospital in Dallas on July 1.
Malloy, also a Houstonian, graduated from Texas A&M University before entering The University of Texas Medical Branch at Galveston. He will start his internship next month at Norfolk General Hospital in Norfolk, Virginia.
Award certificates and checks were presented to the two Galveston medical students at the UT Medical Branch Honors and Awards Convocation held June 3.
Shoemaker's winning article, "The Effect of Thiazide Diuretics on Placental Function," was based on research done at The University of Texas Southwestern Medical School at Dallas during a three-month elective period he spent there.
"Anencephaly: A Review," was the article prepared by Malloy that took second place honors. It was prepared from work done at UT Medical Branch at Galveston.
The TMA award was established in 1966 to recognize the best scientific article written by a medical student currently enrolled in a Texas medical school. Articles must deal with a subject within the realm of the basic sciences or medicine and must be original and unpublished. Excellence of scientific work and competence in the writing craft are the judging criteria.

698 take board exams

The Texas State Board of Medical Examiners met and held examinations June 8-13 at Houston's Astroworld Hotel.
The number of examinations given totaled 698. Of these, there were 170 pre-clinicals, 151 fulls, 24 foreign repeats, and 21 domestic repeats. Sixty-six of those taking the examinations were foreign medical graduates.
The board approved 265 reciprocity applications for licensure, 58 of which were from foreign medical graduates. One reciprocity application was denied, and six duplicate licenses were issued.

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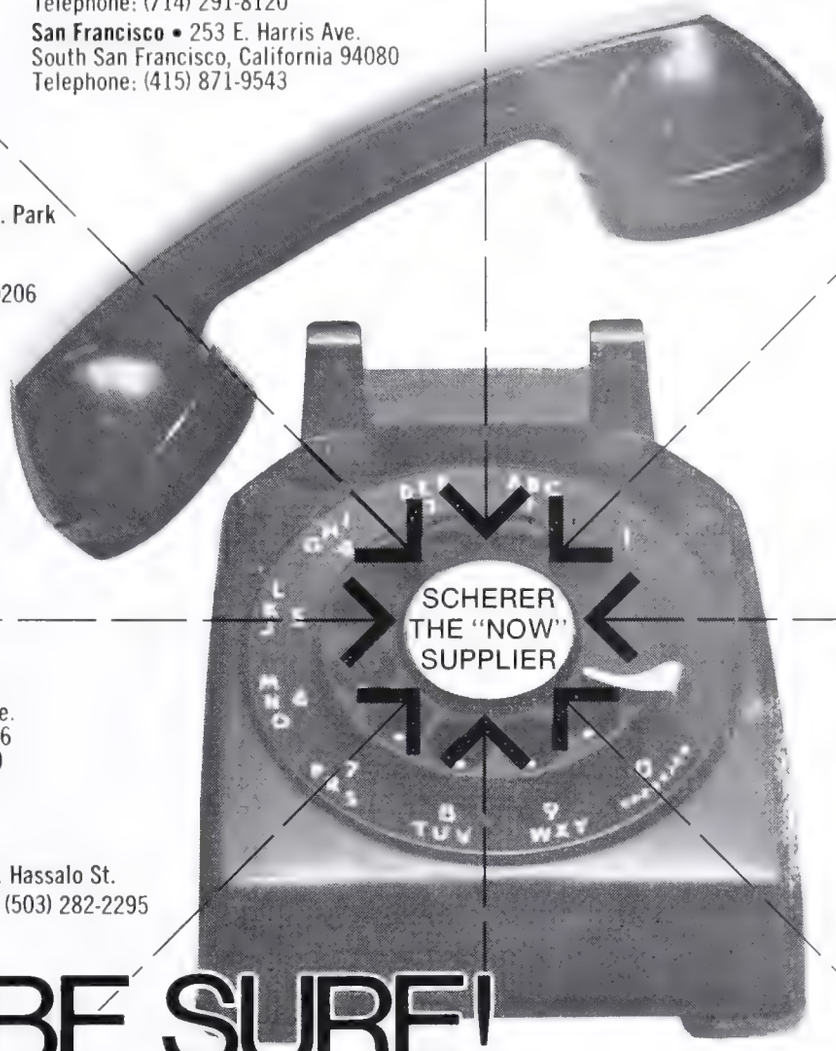

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No calculations are needed, test interpretation is simple.

Any of the commonly used T_4 thyroid function tests (P.B.I., T_4 By Column, Murphy-Pattee, Free Thyroxine) are useful in monitoring patients on T_4 because they *all* measure T_4. Patients on SYNTHROID are thereby easy to monitor because their results will fall within predictable, elevated test ranges. Of course, clinical assessment is the best criterion of the thyroid status of the drug-treated patient.

TEST	HYPOTHYROID	SYNTHROID THERAPEUTIC NORMAL
P.B.I.	Less than 4 mcg %	6-10 mcg %
T_4 By Column	Less than 3 mcg %	7-9 mcg %
T_3 (Resin)	Less than 25%	27-35%
T_3 (Red Cell)	Less than 11%	11.5-18%
Free Thyroxine	Less than 0.7 nanograms %	0.7-2.5 nanograms %
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The conversion has been clinically demonstrated during the administration of T_4 to athyrotic patients. Their thyroid status is normalized on SYNTHROID alone, yet the presence of T_3 in these patients has been clearly shown.

WHY DOES SYNTHROID COST LESS THAN SYNTHETIC DRUGS CONTAINING T_3?

Very simple. T_3 costs more to make synthetically than does T_4. So it is economically necessary for a synthetic thyroid medication containing T_3 to cost more than one containing T_4 alone. Synthetic combinations cost patients nearly 50% more than SYNTHROID[3] because the T_3 costs more to start with; also there is the additional expense of formulating a tablet containing two active ingredients.

1. Latiolais, C. J., and Berry, C. C.: Misuse of Prescription Medications by Outpatients, *Drug Intelligence & Clin. Pharm.* 3:270-7, 1969.
2. Braverman, L. E., Ingbar, S. H., and Sterling, K.: Conversion of Thyroxine (T4) to Triiodothyronine (T3) in Athyreotic Human Subjects, *J. Clin. Invest.* 49:855-64, 1970.
3. American Druggist BLUEBOOK, March, 1971.

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Indications: SYNTHROID (sodium levothyroxine) is specific replacement therapy for diminished or absent thyroid function resulting from primary or secondary atrophy of the gland, congenital defect, surgery, excessive radiation, or antithyroid drugs. Indications for SYNTHROID (sodium levothyroxine) **Tablets** include myxedema, hypothyroidism without myxedema, hypothyroidism in pregnancy, pediatric and geriatric hypothyroidism, hypopituitary hypothyroidism, simple (nontoxic) goiter, and reproductive disorders associated with hypothyroidism. SYNTHROID (sodium levothyroxine) **for Injection** is indicated for intravenous use in myxedematous coma and other thyroid dysfunctions where rapid replacement of the hormone is required. The injection is also indicated for intramuscular use in cases where the oral route is suspect or contraindicated due to existing conditions or to absorption defects, and when a rapid onset of effect is not desired.

Precautions: As with other thyroid preparations, an overdosage may cause diarrhea or cramps, nervousness, tremors, tachycardia, vomiting and continued weight loss. These effects may begin after four or five days or may not become apparent for one to three weeks. Patients receiving the drug should be observed closely for signs of thyrotoxicosis. If indications of overdosage appear, discontinue medication for 2-6 days, then resume at a lower dosage level. In patients with diabetes mellitus, careful observations should be made for changes in insulin or other antidiabetic drug dosage requirements. If hypothyroidism is accompanied by adrenal insufficiency, as Addison's Disease (chronic subcortical insufficiency), Simmonds's Disease (panhypopituitarism) or Cushing's syndrome (hyperadrenalism), these dysfunctions must be corrected prior to and during SYNTHROID (sodium levothyroxine) administration. The drug should be administered with caution to patients with cardiovascular disease; development of chest pains or other aggravations of cardiovascular disease requires a reduction in dosage.

Contraindications: Thyrotoxicosis, acute myocardial infarction. **Side effects:** The effects of SYNTHROID (sodium levothyroxine) therapy are slow in being manifested. Side effects, when they do occur, are secondary to increased rates of body metabolism; sweating, heart palpitations with or without pain, leg cramps, and weight loss. Diarrhea, vomiting, and nervousness have also been observed. Myxedematous patients with heart disease have died from abrupt increases in dosage of thyroid drugs. Careful observation of the patient during the beginning of any thyroid therapy will alert the physician to any untoward effects.

In most cases with side effects, a reduction of dosage followed by a more gradual adjustment upward will result in a more accurate indication of the patient's dosage requirements without the appearance of side effects.

Dosage and Administration: The activity of a 0.1 mg. SYNTHROID (sodium levothyroxine) TABLET is equivalent to approximately one grain thyroid, U.S.P. Administer SYNTHROID tablets as a single daily dose, preferably after breakfast. In hypothyroidism without myxedema, the usual initial adult dose is 0.1 mg. daily, and may be increased by 0.1 mg. every 30 days until proper metabolic balance is attained. Clinical evaluation should be made monthly and PBI measurements about every 90 days. Final maintenance dosage will usually range from 0.2-0.4 mg. daily. In adult myxedema, starting dose should be 0.025 mg. daily. The dose may be increased to 0.05 mg. after two weeks and to 0.1 mg. at the end of a second two weeks. The daily dose may be further increased at two-month intervals by 0.1 mg. until the optimum maintenance dose is reached (0.1-1.0 mg. daily).

Supplied: Tablets: 0.025 mg., 0.05 mg., 0.1 mg., 0.15 mg., 0.2 mg., 0.3 mg., 0.5 mg., scored and color-coded, in bottles of 100, 500, and 1000. Injection: 500 mcg. lyophilized active ingredient and 10 mg. of Mannitol, N.F., in 10 ml. single-dose vial, with 5 ml. vial of Sodium Chloride Injection, U.S.P., as a diluent. SYNTHROID (sodium levothyroxine) **for Injection** may be administered intravenously utilizing 200-400 mcg. of a solution containing 100 mcg. per ml. If significant improvement is not shown the following day, a repeat injection of 100-200 mcg. may be given.

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Morton Grove, Illinois 60053

If she comes up with otitis externa...

Coly-Mycin® S/Otic

WITH NEOMYCIN AND HYDROCORTISONE
(colistin sulfate – neomycin sulfate – thonzonium bromide–hydrocortisone acetate otic suspension)

- ☐ anti-inflammatory/antipruritic
- ☐ broadly anti-infective
  - vs. many Gram-negative invaders... including *Pseudomonas aeruginosa.*
  - vs. many Gram-positive invaders... including *Staph. aureus.*
- ☐ normalizes pH

Each ml contains: Colistin base activity, 3 mg (as the sulfate); Neomycin base activity, 3.3 mg (as the sulfate); Hydrocortisone acetate, 10 mg (1%); Thonzonium bromide, 0.5 mg (0.05%). Polysorbate 80, acetic acid, and sodium acetate in a buffered aqueous vehicle. Thimerosal, 0.002%, added as a preservative. *Indications:* Coly-Mycin S Otic with Neomycin and Hydrocortisone is indicated in the treatment of acute and chronic external otitis due to or complicated by bacterial and/or fungal infections caused by susceptible organisms. It is also indicated for the prophylaxis of "swimmer's ear." *Contraindication:* A history of sensitivity to any of the components or in tubercular, fungal and most viral lesions, especially herpes simplex, vaccinia and varicella. *Precautions:* If sensitivity or irritation occurs, medication should be discontinued promptly. Overgrowth of resistant organisms is possible. Use with care in cases with perforated eardrum or in long standing otitis media because of the possibility of ototoxicity caused by neomycin. There are articles in the current medical literature that indicate an increase in the prevalence of persons sensitive to neomycin. *Adverse Reactions:* A low incidence of mild burning or painful sensation in the ear has been reported. Such local effects do not usually require discontinuance of medication. Sensitivity reactions were reported in a few instances. *Administration and Dosage:* After the ear has been completely cleansed and dried, Coly-Mycin S Otic with Neomycin and Hydrocortisone should be instilled (a sterile dropper is provided) into the canal, or applied to the surface of the affected ear. Shake the suspension well before using. The recommended therapeutic dosage is four (4) drops, 3 times a day; prophylactically, four (4) drops before and after swimming. Until acute pain has subsided, it may be preferable or necessary in some patients to pack the ear with a cotton wick saturated with Coly-Mycin S Otic with Neomycin and Hydrocortisone. The wick should be kept wet at all times. The patient should be instructed to avoid contaminating the dropper, especially with the fingers. Coly-Mycin S Otic with Neomycin and Hydrocortisone is stable for eighteen (18) months at room temperature; however, prolonged exposure to higher temperatures should be avoided. *Supplied:* Coly-Mycin S Otic with Neomycin and Hydrocortisone is available in bottles containing 5 ml or 10 ml. Each ml contains 3 mg of colistin base activity (as the sulfate), 3.3 mg of neomycin base activity (as the sulfate), 10 mg of hydrocortisone acetate, 0.5 mg of thonzonium bromide, polysorbate 80, acetic acid and sodium acetate. A small amount (0.02 mg/ml) of thimerosal has been added as a preservative. Each package contains a sterile dropper. Full information is available on request.

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Morris Plains, N.J. 07950

CMO-GP-31B-BW

New law may help RMPT to continue some projects

Legislation signed by President Nixon in late June could extend funding for some projects of the Regional Medical Program of Texas (RMPT) through June, 1974, says Dave Ferguson, deputy director of RMPT.

It had previously been announced that RMPT would phase out beginning June 30 due to termination of federal funding. The new legislation however, makes it possible that at least some of the projects being sponsored by RMPT will continue for another year.

Ferguson says that RMPT officials are not sure which, or how many projects may be continued. He said that the RMPT Regional Advisory Board and the Board of Trustees have concurred in the decision to continue some projects if funds are available.

Ferguson also said that volunteer committees would remain active if funding continues.

At the moment, RMPT officials are awaiting official statements from Washington as to how much money the program will receive, and the requirements which will govern expenditures.

TMA group disability plan may be one of nation's best

What is the best group disability income plan for physicians?

Although it is a difficult task to select the best one, Dr. C. W. Castle, chairman of TMA's Committee on Association Insurance Programs, feels the association's Long Term Disability Plan would be a front-runner, if not the nationwide leader.

Since its inception in 1955, said Dr. Castle, the plan has not suffered a single setback; benefits have been improved without increases in premiums; and dividends have been distributed each year since 1961. The Prudential Insurance Company of America underwrites the plan.

One of the features which makes the TMA plan a leader is the sickness benefit period, declared Dr. Castle. In 1960, this period was increased from 3 to 5 years with no increase in premium. Then, in 1963, the period was increased from 5 years to "long term." This, too, was accomplished without an increase in premium, noted Dr. Castle.

He explained that the definition of "long term" benefits may vary among plans. It could be applied to a plan which provides a maximum benefit period of perhaps 5 or 7 years for total disability due to illness. The TMA plan, however, defines "long term" as sickness benefits to age 65 for total disability which begins before age 60. If disability commences after age 60, the maximum sickness benefit period is 5 years. Of course, lifetime benefits apply for total disability due to accident.

Another feature of the TMA plan is that payment for partial disability benefits has been enhanced. Effective Aug 1, 1973, the Long Term Plan will provide for partial disability benefits up to 3 months for loss due to illness at no increase in premium. The plan has always provided partial benefits up to 3 months for loss resulting from accidental injury.

Other specific advantages which Dr. Castle cited include the fact that dividends have been declared and distributed each year since 1961. Since that time a total of $2,468,703 has been returned to insured members.

In addition, all restrictions for loss due to private flying have been removed at no increase in premium.

Finally,he said, since November 1971, an insured person who reaches age 70 may remain in the plan to age 75, providing that he or she remains in the active practice of medicine. The benefit period and monthly indemnity decrease, but the cost per $100 of coverage remains the same.

While he feels all of these accomplishments are worthwhile, Dr. Castle emphasized that extending the sickness

benefit period from 5 years to long term is the most significant.

In concluding his remarks, Dr. Castle mentioned that while a historical summary of improvements is important, members interested in the plan should always refer to a brochure or specimen certificate for full information on benefit provisions as well as limitations. He mentioned that the TMA insurance brochure carefully details the provisions so that members may have sufficient knowledge on which to base their decision.

NEWS

Texas cancer coordinating group holds first meeting in Dallas

The first organizational meeting of the Texas Cancer Coordinating Committee was held May 5 in Dallas in conjunction with TMA's Annual Session. Representatives from 23 health-related institutions in the state attended the meeting.

Curt W. Reimann, representing the American Cancer Society, told those attending the meeting that the committee was being formed in order to meet the need to coordinate the activities of all organizations concerned with cancer control, including their efforts in professional education, public education, and patient care.

The Texas Division of the ACS has approved a special grant of $5,000 to help in the organization of the committee.

The committee decided that its work "should be directed toward assisting members and member organizations in improving the quality of care and survival of cancer patients, providing all citizens of Texas with information on cancer, and making care accessible to all persons with cancer."

Groups represented at the meeting included American Cancer Society, American Heart Association, Texas Dental Association, Texas Radiological Society, M.D. Anderson Hospital, Texas Tech University School of Medicine, and The University of Texas Medical School at San Antonio.

Also, The University of Texas Medical Branch at Galveston, UT Southwestern Medical School at Dallas, Baylor College of Medicine, The University of Texas School of Public Health, Texas State Department of Health, Texas Hospital Association, Texas Nurses Association, and Texas Society of Pathologists.

Also, Texas Dermatological Society, Texas Academy of Family Practice, Texas Thoracic Society, Scott and White Clinic, East Texas Chest Hospital, Texas Medical Association, and American College of Surgeons.

Officers of the Texas Cancer Coordinating Committee are Dr. Billie L. Aronoff, chairman; Dr. Robert C. Hickey, vice chairman; and Jack M. Hardison, secretary. The next meeting of the committee is scheduled to take place Oct 5 in Austin.

UNIT VALUES FOR TMA MEMBERS RETIREMENT PLAN AND TRUST

(As a service to participants in the TMA Members Retirement Plan and to physicians interested in enrolling in the program, comparative values for investments are listed. Figures shown are the latest available at press deadline and are for comparison purposes only. Most daily newspapers list up-to-the-minute values on mutual funds.)

Investment media	Original price 9-30-68	Net asset value per share 5-31-73	Net asset value per share 5-31-73*
Mercantile National Bank Stock Fund	$10.25	$10.70	$10.70
Loomis-Sayles Capital Development Fund	14.20	12.55	14.60
T. Rowe Price Growth Stock Fund	25.93	13.02	15.04
Loomis-Sayles Mutual Fund	16.82	14.48	18.87
Stein Roe & Farnham Balanced Fund	23.34	20.51	27.26
Mercantile Bank Fixed Income Fund	10.00	11.70	11.70

*Adjusted to include dividends and distributions since 9-30-68.

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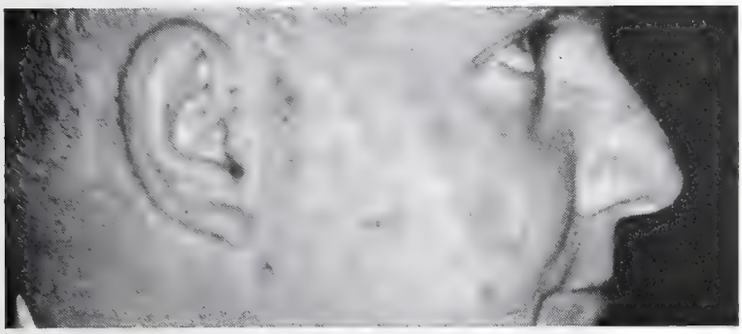
What's on your patient's face...

may be more important than his chief complaint

The lesions on his face may be solar/actinic—so-called "senile" keratoses...and they may be premalignant.

Solar, actinic or senile keratoses

These lesions may be called by several names, but they usually can be identified by the following characteristics: the typical lesion is flat or slightly elevated, of a brownish or reddish color, papular, dry, rough, adherent, and sharply defined. They commonly occur as multiple lesions, chiefly on the exposed portions of the skin.



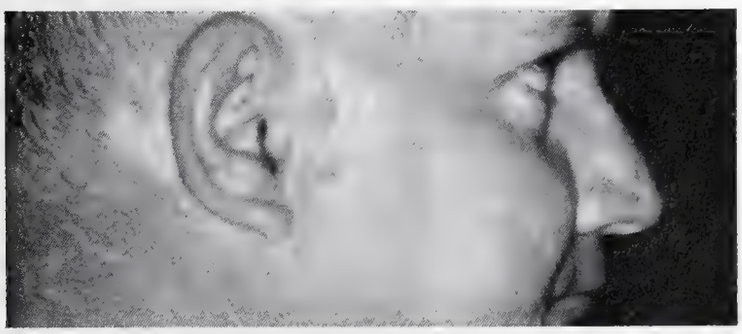
Patient P.T. seen on 3/29/67 shows typical lesions of moderately severe keratoses. Note residual scarring on ridge of nose from previous cryosurgical and electrosurgical procedures.*

Sequence of therapy/ selectivity of response

After several days of therapy with Efudex® (fluorouracil), erythema may begin to appear in the area of the lesions; the reaction usually reaches its height of unsightliness and discomfort within two weeks, declining after discontinuation of therapy. This reaction occurs in affected areas. Since the response is so predictable, lesions that do not respond should be biopsied.

Acceptable results

Treatment with Efudex provides highly favorable cosmetic results. Incidence of scarring is low. This is particularly important with multiple facial lesions. Efudex should be applied with care near the eyes, nose and mouth.



Patient P.T. seen on 6/12/67, seven weeks after discontinuation of 5%-FU cream. Reaction has subsided. Residual scarring not seen except for that due to prior surgery. Inflammation has cleared and face is clear of keratotic lesions.*

*Data on file, Hoffmann-La Roche Inc., Nutley, N.J.

Before prescribing, please consult complete product information, a summary of which follows:

Indications: Multiple actinic or solar keratoses.

Contraindications: Patients with known hypersensitivity to any of its components.

Warnings: If occlusive dressing used, may increase inflammatory reactions in adjacent normal skin. Avoid prolonged exposure to ultraviolet rays. Safe use in pregnancy not established.

Precautions: If applied with fingers, wash hands immediately. Apply with care near eyes, nose and mouth. Lesions failing to respond or recurring should be biopsied.

Adverse Reactions: Local—pain, pruritus, hyperpigmentation and burning at application site most frequent; also dermatitis, scarring, soreness and tenderness. Also reported—insomnia, stomatitis, suppuration, scaling, swelling, irritability, medicinal taste, photosensitivity, lacrimation, leukocytosis, thrombocytopenia, toxic granulation and eosinophilia.

Dosage and Administration: Apply sufficient quantity to cover lesion twice daily with nonmetal applicator or suitable glove. Usual duration of therapy is 2 to 4 weeks.

How Supplied: Solution, 10-ml drop dispensers—containing 2% or 5% fluorouracil on a weight/weight basis, compounded with propylene glycol, tris(hydroxymethyl)aminomethane, hydroxypropyl cellulose, parabens (methyl and propyl) and disodium edetate.

Cream, 25-Gm tubes—containing 5% fluorouracil in a vanishing cream base consisting of white petrolatum, stearyl alcohol, propylene glycol, polysorbate 60 and parabens (methyl and propyl).

This patient's lesions were resolved with

Efudex® (fluorouracil)

5% cream/solution ...a Roche exclusive

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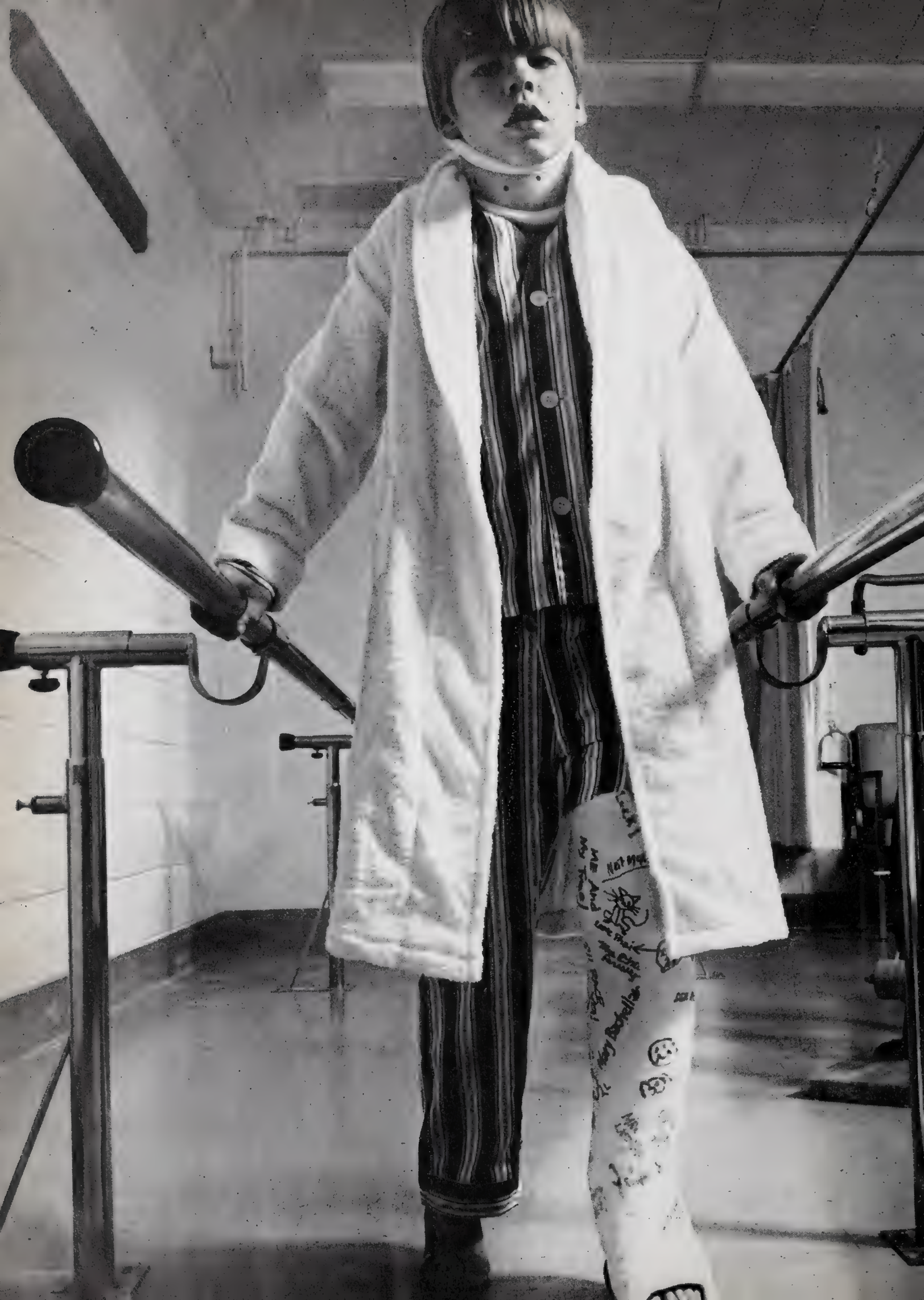

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It's tough, but he's getting the best physical therapy treatment and the best equipment money can buy.

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The road to recovery is long and hard, and we know it. But at least we can help that ten-year-old boy get on his feet again.

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Information for authors

Material for *Texas Medicine* may be sent to the Managing Editor, 1801 North Lamar Blvd., Austin 78701. It must be offered solely to this journal. Each paper is reviewed by a consultant specialist and an editorial board, and is accepted or rejected on the basis of its individual merit and the availability of other material.

Manuscripts should be typed double-spaced with ample margins on firm paper. Carbons are unacceptable, but the author should keep a copy.

The *title* should include the words most suitable for indexing the article in "Index Medicus," should stress the main point, and should be brief. Subtitles should not be connected grammatically with the main title.

The *author's names* and degrees should follow the title, and their mailing addresses should be listed at the end of the article.

The *text* should be narrative with complete sentences, *few abbreviations*, and logical subheading. For *spelling and usage* the editors follow "Dorland's Illustrated Medical Dictionary," 24th edition, and "Webster's Third New International Dictionary, Unabridged." *Quotations* must give credit to both author and source. A concise *introductory summary* is required.

Reference lists should contain in this order (1) author's last name, initials, (2) title of article or book, (3) name of journal, (4) volume and inclusive page numbers, written 33:156-160, (5) year. For books, the title should be followed by place of publication, name of publisher, and year.

Illustrations should be black and white drawings or positive photographs, with neat, uniform, fairly large lettering. A label pasted to the back of each illustration should indicate its number, top, author's name, and title of article in brief. *Legends* should be in complete sentences, numbered, and typed on a separate sheet. *Color illustrations* are authorized if they are of special value.

Tables should be typed on separate sheets. Column headings should show points of similarity; side headings, points of difference.

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All material is subject to *editing*, but authors receive typescripts to check before publication. Prompt return of typescripts to *Texas Medicine* office avoids delay in publication. After the article is sent to the printer, only minimal revision may be made.

Reprints are available directly from the printer at an established schedule of costs. Authors automatically receive order blanks when their articles are published.

Editorials should be prepared in the same general manner, and should be written in clear, concise language. They should be 300-500 words in length (about two to three pages typed with double spacing.)

Contributions to the news section should be sent to the Editorial Offices, 1801 N. Lamar Blvd., Austin 78701, by the 5th of the month preceding the month of publication.

PUBLICATION INFORMATION

Texas Medicine is published monthly by the Texas Medical Association.

Contributions, previously unpublished, are welcomed for review. News and other items should be sent to the Editorial Offices by the 5th of the month preceding the month of publication. All contributions are sent at the owner's risk.

Scientific Articles are reviewed by technical and specialist consultants and are selected for publication in Texas Medicine by the Scientific Publication Committee, which is appointed by the Board of Publication. Editorials and other articles are subject to review by officers of the Texas Medical Association, appropriate expert and technical consultants, and representatives of county medical societies when in their purview.

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COMING MEETINGS

CURRENT NATIONAL MEETINGS

AMERICAN COLLEGE OF HOSPITAL ADMINISTRATORS will hold its 39th Annual Meeting at the Conrad Hilton Hotel, Chicago, Aug. 18-21. Contact: American College of Hospital Administrators, 840 N. Lake Shore Dr., Chicago 60611.

AMERICAN FRACTURE ASSOCIATION's 1973 Annual Meeting will be Sept. 5-8, at the Hotel Bonaventure in Montreal, Canada. The scientific program, featuring the theme, Trauma, will be sponsored by the University of Ottawa, McGill University, and the University of Montreal. A post convention tour of the orthopaedic centers of central Europe will be leaving Montreal Sept. 8. The tour will visit Munich, Vienna, Lucerne, Bern, Mannheim-Heidelberg, and Amsterdam. Contact: Dr. H. W. Wellmerling, 600 Livingston Bldg., Bloomington, Ill. 61701.

AMERICAN ASSOCIATION OF MEDICAL CLINICS will present "The Linking of Education and Health Care Delivery" as the theme of its annual meeting Sept. 16-20, at the Century Plaza Hotel, Los Angeles. Featured speakers will be Dr. M. Roy Schwarz, University of Washington School of Medicine, Seattle; Dr. William R. Willard, University of Alabama; Dr. Merlin K. DuVal, University of Arizona Medical Center, Tucson; Dr. William I. Bauer, Department of Health, Education and Welfare, Washington, DC; and Dr. William R. Roy, Democratic Congressman from Kansas. A post-meeting tour to Mexico will leave Los Angeles Sept. 21 with visits in Taxco, Mexico City, and Acapulco. Contact: AAMC, PO Box 949, Alexandria, Va. 22313.

WYOMING STATE MEDICAL SOCIETY will hold its 70th Annual Meeting Aug. 28-31 at Jackson Lake Lodge, Moran, Wyo. Scientific sessions will include programs on thermography, sexual counseling for the family physician, antibiotic selection in the critically-ill patient, peptic ulcer disease and surgical management, and nutrition. Continuing medical education courses will be included in the program. Contact: Wyoming State Medical Society, PO Box 1387, Cheyenne, Wyo. 82001.

For other courses and symposiums, see Continuing Education Courses, pp. 41-42.

AMERICAN LUNG ASSOCIATION OF TEXAS, COASTAL BEND AREA

"Make Good Health Contagious" will be the theme of the one-day forum sponsored by the American Lung Association of Texas, Coastal Bend Area. It will be held on Wednesday, Aug. 22, in Corpus Christi, in the Crown Room of the Sheraton-Marina Inn. Topics of the day will include communicable diseases, dental health, tuberculosis, and drug abuse. Registration fee is $5 and will cover the cost of the luncheon and all the materials. Contact: American Lung Association of Texas, Coastal Bend Area, PO Box 2525, Corpus Christi 78403.

AMERICAN ROENTGEN RAY SOCIETY

The annual meeting of the American Roentgen Ray Society will be held at the Queen Elizabeth Hotel, Montreal, Canada, Sept. 25-28, 1973. Scientific papers covering subjects in radiological diagnosis, therapy, and nuclear medicine will be presented during the meeting, and scientific exhibits will be on display each day. Instruction courses will be presented each afternoon. For more information, contact: Dr. Ted F. Leigh, Emory University Clinic, Atlanta, Ga. 30322.

4TH INTERNATIONAL CONFERENCE ON BIRTH DEFECTS

Vienna, Austria, will host the 4th International Conference on Birth Defects, sponsored by the National Foundation—March of Dimes, on Sept. 2-8, 1973. Advances in fundamental and clinical sciences regarding human birth defects will be covered in a series of invitational symposia and sessions where free papers will be presented. The official languages of the conference will be English, French and German. Simultaneous interpretation will be provided at all plenary sessions. For more information, contact: Secretariat of the Fourth International Conference on Birth Defects, c/o Holland Organizing Centre, 16, Lange Voorhout, The Hague, The Netherlands.

MORE COMING MEETINGS

■ Denotes Texas meetings.

AUGUST

■ AMERICAN CANCER SOCIETY, TEXAS DIVISION, Dallas, Aug. 23-24, 1973. Curt W. Reimann, 5100 Ridge Oak, Austin 78731, Exec. V.-Pres.

SEPTEMBER

■ AMERICAN ACADEMY OF OPHTHALMOLOGY AND OTOLARYNGOLOGY, Dallas, Sept. 16-20, 1973. Dr. C. M. Kos, 15 Second St. SW, Rochester, Minn. 55901.

AMERICAN ASSOCIATION OF MEDICAL CLINICS, Los Angeles, Sept. 16-20, 1973. Dr. G. Stanley Custer, 630 S. Central Ave., Marshfield, Wisc. 54449, Acting Exec. Dir.

AMERICAN CANCER SOCIETY, Second National Conference on Cancer of the Colon and Rectum, Bal Harbour, Fla., Sept. 27-29, 1973. Dr. Sidney L. Arje, 219 E. 42nd St., New York 10017.

AMERICAN FRACTURE ASSOCIATION, Montreal, Sept. 5-9, 1973. Dr. H. W. Wellmerling, 600 Livingston Bldg., Bloomington, Ill. 62058, Exec. Officer.

AMERICAN MEDICAL ASSOCIATION, 33rd Annual AMA Congress on Occupational Health, Philadelphia, Sept. 17-18, 1973. AMA, 535 N. Dearborn St., Chicago, Ill. 60610.

AMERICAN ROENTGEN RAY SOCIETY, Montreal, Sept. 25-28, 1973. Dr. Ted F. Leigh, Emory University Clinic, Atlanta 30322, Exec. Sec.

■ AMERICAN SOCIETY OF INTERNAL MEDICINE, Dallas, Sept. 21-22, 1973. American Society of Internal Medicine, 525 The Hearst Bldg., Third at Market, San Francisco 94103.

■ BLACKFORD MEMORIAL LECTURES, Denison, Tex., Sept. 8, 1973. Dr. John D. Gleckler, 211 N. Fannin, Denison 75020, Com. Chrm.

INTERNATIONAL HEALTH EVALUATION ASSOCIATION, London, England, Sept. 11-14, 1973. Mrs. Norma M. Oldfield, 354 Tappan St., Brookline, Mass. 02146, Exec. Dir.

INTERNATIONAL MEDICAL CONGRESS, Fourth International Conference on Birth Defects, Vienna, Austria, Sept. 2-8, 1973. Richard C. Gedney, 1275 Mamaroneck Ave., White Plains, NY 10605, Exec. Sec.

■ PANHANDLE DISTRICT MEDICAL SOCIETY, Lubbock, Sept. 15, 1973. Carlie Umphres, PO Box 3276, Amarillo 79106, Exec. Officer.

■ TEXAS PEDIATRIC SOCIETY, Austin, Sept. 20-22, 1973. Dr. Pat A. Cato, 1015 E. 32nd St., Austin 78705.

■ TEXAS SOCIETY OF CHILD PSYCHIATRY, Sept., 1973. Dr. A. J. Cahill, 8226 Douglas, No. 356, Dallas 75225, Sec.

OCTOBER

AMERICAN ACADEMY OF FAMILY PHYSICIANS, Denver, Oct. 1-4, 1973. Roger Tusken, Volker Blvd. at Brookside, Kansas City, Mo. 64112, Exec. Dir.

AMERICAN ACADEMY OF PHYSICAL MEDICINE AND REHABILITATION, Washington, DC, Oct. 21-26, 1973. Creston Herold, 30 N. Michigan Ave., Chicago 60602, Exec. Off.

AMERICAN ASSOCIATION FOR LABORATORY ANIMAL SCIENCE, Bal Harbour, Fla., Oct. 1-5, 1973. Joseph J. Garvey, 2317 W. Jefferson, Suite 208, Joliet, Ill. 60435, Exec. Sec.

AMERICAN ASSOCIATION OF MEDICAL ASSISTANTS, Washington, DC, Oct. 23-27, 1973. Dene R. Murray, One E. Wacker, No. 1510, Chicago 60601, Exec. Dir.

AMERICAN BOARD OF FAMILY PRACTICE, Oct. 20-21, 1973. Dr. Nicholas J. Pisacano, University of Kentucky Medical Center, Annex No. 2, Rm. 229, Lexington 40506, Sec.

AMERICAN COLLEGE OF CHEST PHYSICIANS, Toronto, Ontario, Oct. 21-25, 1973. Dr. Alfred Soffer, 112 East Chestnut, Chicago 60611, Exec. Dir.

AMERICAN COLLEGE OF GASTROENTEROLOGY, Los Angeles, Oct. 21-27. Daniel Weiss, 299 Broadway, New York 10007, Exec. Sec.

AMERICAN COLLEGE OF SURGEONS, Chicago, Oct. 15-19, 1973. C. Rollins Hanlon, 55 E. Erie St., Chicago 60611, Dir.

AMERICAN CONGRESS OF REHABILITATION MEDICINE, Washington, DC, Oct. 21-26, 1973. Creston Herold, 30 N. Michigan Ave., Chicago 60602, Exec. Off.

DBI® phenformin HCl Tablets of 25 mg.
DBI-TD® phenformin HCl Timed-Disintegration Capsules of 50 and 100 mg.

Indications: Stable adult diabetes mellitus; sulfonylurea failures, primary and secondary; adjunct to insulin therapy of unstable diabetes mellitus. *Contraindications:* Diabetes mellitus that can be regulated by diet alone; juvenile diabetes mellitus that is uncomplicated and well regulated on insulin; acute complications of diabetes mellitus (metabolic acidosis, coma, infection, gangrene); during or immediately after surgery where insulin is indispensable; severe hepatic disease; renal disease with uremia; cardiovascular collapse (shock); after disease states associated with hypoxemia. *Warnings:* Use during pregnancy is to be avoided. *Precautions:* 1. *Starvation Ketosis:* This must be differentiated from "insulin lack" ketosis and is characterized by ketonuria which, in spite of relatively normal blood and urine sugar, may result from excessive phenformin therapy, excessive insulin reduction, or insufficient carbohydrate intake. Adjust insulin dosage, lower phenformin dosage, or supply carbohydrates to alleviate this state. **Do not give insulin without first checking blood and urine sugar.**
2. *Lactic Acidosis:* This drug is not recommended in the presence of azotemia or in any clinical situation that predisposes to sustained hypotension that could lead to lactic acidosis. To differentiate lactic acidosis from ketoacidosis, periodic determinations of ketones in the blood and urine should be made in diabetics previously stabilized on phenformin, or phenformin and insulin, who have become unstable. If electrolyte imbalance is suspected, periodic determinations should also be made of electrolytes, pH, and the lactate-pyruvate ratio. The drug should be withdrawn and insulin, when required, and other corrective measures instituted immediately upon the appearance of any metabolic acidosis.
3. *Hypoglycemia:* Although hypoglycemic reactions are rare when phenformin is used alone, every precaution should be observed during the dosage adjustment period particularly when insulin or a sulfonylurea has been given in combination with phenformin.
Adverse Reactions: Principally gastrointestinal; unpleasant metallic taste, continuing to anorexia, nausea and, less frequently, vomiting and diarrhea. Reduce dosage at first sign of these symptoms. In case of vomiting, the drug should be immediately withdrawn. Although rare, urticaria has been reported, as have gastrointestinal symptoms such as anorexia, nausea and vomiting following excessive alcohol intake. (B) 98-146-103-E (6/72)

For complete details, including dosage, please see full prescribing information.

GEIGY Pharmaceuticals
Division of CIBA-GEIGY Corporation
Ardsley, New York 10502

DBI 9105

What should a medication for sleep be expected to provide?

Before prescribing Dalmane (flurazepam HCl), please consult Complete Product Information, a summary of which follows:

Indications: Effective in all types of insomnia characterized by difficulty in falling asleep, frequent nocturnal awakenings and/or early morning awakening; in patients with recurring insomnia or poor sleeping habits; and in acute or chronic medical situations requiring restful sleep. Since insomnia is often transient and intermittent, prolonged administration is generally not necessary or recommended.

Contraindications: Known hypersensitivity to flurazepam HCl.

Warnings: Caution patients about possible combined effects with alcohol and other CNS depressants. Caution against hazardous occupations requiring complete mental alertness (*e.g.*, operating machinery, driving). Use in women who are or may become pregnant only when potential benefits have been weighed against possible hazards. Not recommended for use in persons under 15 years of age. Though physical and psychological dependence have not been reported on recommended doses, use caution in administering to addiction-prone individuals or those who might increase dosage.

Precautions: In elderly and debilitated, initial dosage should be limited to 15 mg to preclude oversedation, dizziness and/or ataxia. If combined with other drugs having hypnotic or CNS-depressant effects, consider potential additive effects. Employ usual precautions in patients who are severely depressed, or with

Sleep for 7 to 8 hours without need to repeat dosage during the night

No sleep medication has been as rigorously evaluated in the sleep research laboratory as Dalmane. Insomnia patients given one 30-mg capsule of Dalmane at bedtime, on average: fell asleep within 17 minutes, had fewer nighttime awakenings, spent less time awake after sleep onset, and slept for 7 to 8 hours with no need to repeat dosage during the night.

Sleep with consistency

Dalmane has been shown to be consistently effective even during consecutive nights of administration. Thus there is little likelihood for the need to increase dosage to maintain therapeutic effect.

Dalmane (flurazepam HCl) is a distinctive sleep medication—a benzodiazepine specifically indicated for insomnia. It is not a barbiturate or methaqualone, nor is it related chemically to any other available hypnotic.

Sleep with relative safety

Chronic tolerance studies have confirmed the relative safety of Dalmane; no depression of cardiac or respiratory function was noted in patients administered recommended or higher doses for as long as 90 consecutive nights. Dalmane is generally well tolerated and morning "hang-over" is relatively infrequent. Dizziness, drowsiness, lightheadedness and the like have been the side effects noted most frequently, particularly in elderly and debilitated patients. (An initial dose of Dalmane 15 mg should be prescribed for these patients.)

DALMANE®
(flurazepam HCl)

When restful sleep is indicated

One 30-mg capsule *h.s.*—usual adult dosage
(15 mg may suffice in some patients).
One 15-mg capsule *h.s.*—initial dosage for elderly or debilitated patients.

ROCHE LABORATORIES
Division of Hoffmann-La Roche Inc.
Nutley, New Jersey 07110

atent depression or suicidal tendencies. Periodic blood counts and liver and kidney function tests are advised during epeated therapy. Observe usual precautions in presence of impaired renal or epatic function.

Adverse Reactions: Dizziness, drowsiness, lightheadedness, staggering, ataxia and falling have occurred, particularly n elderly or debilitated patients. Severe sedation, lethargy, disorientation and coma, probably indicative of drug intolerance or overdosage, have been reported. Also reported were headache, heartburn, upset stomach, nausea, vomiting, diarrhea, constipation, GI pain, nervousness, talkativeness, apprehension, irritability, weakness, palpitations, chest pains, body and joint pains and GU complaints. There have also been rare occurrences of sweating, flushes, difficulty in focusing, blurred vision, burning eyes, faintness, hypotension, shortness of breath, pruritus, skin rash, dry mouth, bitter taste, excessive salivation, anorexia, euphoria, depression, slurred speech, confusion, restlessness, hallucinations, and elevated SGOT, SGPT, total and direct bilirubins and alkaline phosphatase. Paradoxical reactions, *e.g.*, excitement, stimulation and hyperactivity, have also been reported in rare instances.

Dosage: Individualize for maximum beneficial effect. *Adults:* 30 mg usual dosage; 15 mg may suffice in some patients. *Elderly or debilitated patients:* 15 mg initially until response is determined.

Supplied: Capsules containing 15 mg or 30 mg flurazepam HCl.

Opinion & Dialogue

"Prescription drugs – who should determine the maker?"

Dispenser of Medicine

Clifton J. Latiolais
President
American
Pharmaceutical
Association

Maker of Medicine

C. Joseph Stetler
President
Pharmaceutical
Manufacturers
Association

"Too many doctors are indifferent to the economic consequences of their decisions." So stated a recent issue of *Medical News Report* (December 4, 1972), an independent weekly newsletter published by former AMA Chief Executive F. J. L. Blasingame, M.D.

Doctor, are you indifferent...?

In discussing an anticipated increase in Blue Shield rates, Dr. Blasingame's newsletter had this to say:

"In general, it can be said, MD's have given the impression they are not particularly concerned with the increase in cost of health care to their patients...

"True, an MD's training is primarily scientific, but in the real world of practice, all of his scientific decisions have a price tag, or an economic impact. The economics of health care beckon the practitioner's attention. Concern for economics of medicine

When the pharmacist recommends that a drug product other than the one ordered be dispensed, the prescriber invariably permits the change when he feels the best interests of the patient will be served.

Shortcomings of Pro-Substitution Argument

The fact remains that it is necessary for the prescriber to know that the change is being contemplated, and to be in a position to consent or demur. Without that opportunity, the unilateral decision of the pharmacist, made in the absence of clinical knowledge of the patient, could expose him to needless risks, and in addition, jeopardize the relationship between the professions of Pharmacy and Medicine. In my view, there is nothing in the pro-substitution argument that offsets these risks.

The Issue of Drug Knowledge

Substitution advocates claim that the primary justification for changing the rules is the desire to better utilize pharmacists' knowledge about drugs. Yet the pharmacist's task to keep current on the entire field of drug therapy, to some degree, puts him at a disadvantage. Most often, a practicing physician will need expert knowledge of no more than 25

Advertisement

should be an obligation of medical practice...

"Medical societies ought to conduct continuing campaigns to point out the substantial savings that could be realized thru deductible insurance and protection for catastrophic illness. At the very least, they should, in the patients' interest, question the tactics of any insurance organization that raises health care costs by forcing policyholders to buy insurance they may not need or want and probably won't ever use.

"Too many doctors are indifferent to the economic consequences of their decisions. Too many, for example, habitually hospitalize patients for the convenience of the MD. It's nonsense to deny such habits exist...

"Doctors, thru their medical societies, have unhesitatingly appealed to their patients for support in the fight against government interference with the private practice of medicine. And the public in the past has responded. It's time the American Medical Association and state and local medical societies paid off the debt by decisive action to hold down the cost of medical care."

Cost of Drugs

Insurance rates and hospital charges are only two factors in health care costs. The cost of drugs—both prescription and nonprescription—is another.

And when it comes to drug costs, the nation's pharmacists *are concerned*. Through their national professional society, the American Pharmaceutical Association, pharmacists are advising the public to use nonprescription medication cautiously and conservatively, and to seek the advice of their pharmacist before selecting or purchasing such drugs.

Outdated Laws

The pharmacist also is aware that when it comes to prescription drugs, often he has an even greater opportunity to reduce the cost to the patient—with no sacrifice in the quality of the medication dispensed. But in many states, outdated and antiquated laws prevent the pharmacist from engaging in drug product selection. "Drug product selection" simply means that the pharmacist functions in the patient's interest by consciously choosing, from the multiple brands available, a low-cost quality brand of the specific drug to be dispensed in response to the physician's prescription order.

Much *misinformation* has been purposely spread by those who stand to gain financially by maintaining high drug costs to the public. An endless stream of propaganda has emanated from the drug industry in an effort to persuade the medical profession that these so-called anti-substitution laws should be retained. And as long as these laws are retained, the drug industry will continue its current marketing practices which contribute unnecessarily to high drug costs to patients. These practices also are inviting government agencies to expand their restrictive controls on physicians and pharmacists.

APhA Efforts

As pharmacists, we are concerned about health care costs. We hope that every physician shares our concern on this vital issue, and will give his personal support to the constructive efforts APhA has undertaken in the interest of all patients.

(For a complete discussion of drug product selection, you are invited to request a free copy of the "White Paper on the Pharmacist's Role in Product Selection" from: American Pharmaceutical Association, 2215 Constitution Avenue, N.W., Washington, D.C. 20037.)

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or 30 drugs that he selects to treat the majority of conditions encountered in his practice. Moreover, the physician's choice of a specific brand is based on his knowledge of the patient's medical history and current condition, and his experiences with the particular manufacturer's product.

Some substitution proponents have argued that the dispensing of a prescription is a simple two-party transaction between the pharmacist and the patient, and that a substituting pharmacist may avoid even a technical breach of contract by simply notifying the patient that he is making the substitution. I would judge that few courts would be sympathetic toward a pharmacist who substituted without physician approval and who undertook a legal defense that seeks to make the patient responsible for the pharmacist's actions.

Reduced Prescription Prices?

Substitution advocates are suggesting to the consumer, and particularly the consumer activist, that reduced prescription prices could follow legalization of substitution. We have seen absolutely no evidence to justify this claim. To the contrary, experience in Alberta, Canada, where substitution is authorized, suggests the opposite.

Many pharmacists understandably are concerned about the cost of maintaining multiple stocks of similar products. While there is no doubt that inventory costs rise when additional brands are stocked, it would be interesting to know how much they rise, and how many pharmacists actually stock *all* brands—of, say, ampicillin or tetracycline—or how long they keep "slow moving" products on their shelves before they are returned for credit. To ask that the industry eliminate multiple sources is to ask competitors to stop competing.

Drug Substitution—A License for the Unethical

Anti-substitution repeal would favor "corner cutting" pharmacists and manufacturers. For them, free substitution would be not a right, but a license. As an aftermath, it is quite likely that the confidence of both physicians and patients in the profession of Pharmacy would be eroded, as revelations about the unconscionable behavior of an undisciplined few were magnified in the press or in professional circles.

Summary

In short, what the American Pharmaceutical Association advocates as a broad-spectrum panacea looks to us to be not only a minority view (advocacy of substitution is by no means a uniform policy in Pharmacy), but also an extraordinarily costly and ineffective remedy, whose side effects are odious. We believe (1) that an impressive majority of pharmacists prefer to work with Medicine and with industry, for the consumer, and for the general good, (2) that they seek the privilege to substitute when the patient might gain and when the patient's doctor agrees, and (3) that they seek to work for the resolution of genuine grievances openly and professionally.

(For amplification of PMA views, please write for our booklet, "The Medications Physicians Prescribe: Who Shall Determine the Source?" It is available from: Pharmaceutical Manufacturers Association, 1155 Fifteenth Street, N.W., Washington, D.C. 20005.)

Pharmaceutical Manufacturers Association
1155 Fifteenth Street, N.W.
Washington, D.C. 20005

P·M·A

AMERICAN DIETETIC ASSOCIATION, Denver, Oct. 22-26, 1973. Lorraine Thomas, 620 N. Michigan Ave., Chicago 60611.

AMERICAN HUMANE ASSOCIATION, Charleston, S.C., Oct. 21-25, 1973. H. M. Thorp, PO Box 1266, Denver 80201, Conv. Coord.

AMERICAN MEDICAL ASSOCIATION, 14th National Conference on Physicians and Schools, Chicago, Oct. 4-6, 1973. AMA, 535 N. Dearborn St., Chicago 60610.

AMERICAN SOCIETY OF ANESTHESIOLOGISTS, San Francisco, Oct. 7-11, 1973. John W. Andes, 515 Busse Highway, Park Ridge, Ill. 60068, Exec. Sec.

AMERICAN SOCIETY OF PLASTIC AND RECONSTRUCTIVE SURGEONS, Hollywood, Fla., Oct. 21-26, 1973. Dallas F. Whaley, 29 E. Madison, Suite 807, Chicago 60602, Exec. Dir.

ASSOCIATION OF LIFE INSURANCE MEDICAL DIRECTORS OF AMERICA, New York City, Oct. 14-17, 1973. Dr. Arthur E. Brown, 501 Boylston St., Boston 02117, Sec.

CIVIL AVIATION MEDICAL ASSOCIATION, Mexico, Oct. 22-25, 1973. Dr. Luis A. Amezcuag, Ave. Progreso No. 186-101, Mexico 18, DF, Mex., Chrmn.

SOUTHERN PSYCHIATRIC ASSOCIATION, Miami, Oct. 6-9, 1973. Annette S. Boutwell, PO Box 10387, Raleigh, NC 27605, Exec. Sec.

■ **TEXAS MEDICAL ASSOCIATION, Austin, Oct. 5-7, 1973. C. Lincoln Williston, 1801 N. Lamar Blvd., Austin 78701, Exec. Sec.**

■ UNIVERSITY OF TEXAS M.D. ANDERSON HOSPITAL AND TUMOR INSTITUTE and The University of Texas Medical Branch at Galveston, Legacies of Railroad Medicine to American Health Care, Houston, Oct. 27-28, 1973. Dr. Robert C. Hickey, The University of Texas M.D. Anderson Hospital and Tumor Institute, Texas Medical Center, Houston 77025, Exec. V.P.

WORLD CONFERENCE ON THE HUMAN ENVIRONMENT, Yugoslavia, Oct. 23-26, 1973. Dr. Gerald D. Dorman, 10 Columbus Circle, New York 10019.

WORLD MEDICAL ASSOCIATION, Munich, Germany, Oct. 14-20, 1973. M. L. Natwick, 10 Columbus Circle, New York 10019, Exec. Sec.

NOVEMBER

AMERICAN ASSOCIATION OF BLOOD BANKS, Bal Harbour, Fla., Nov. 11-16, 1973. Lois J. James, 30 N. Michigan Ave., Chicago 60602, Cen. Office Mgr.

AMERICAN ASSOCIATION FOR RESPIRATORY THERAPY, Atlanta, Nov. 11-14, 1973. Winfield S. Singletary, 7411 Hines Pl., Dallas 75235, Exec. Off.

AMERICAN HEART ASSOCIATION, Atlantic City, N.J., Nov. 8-13, 1973. William Moore, 44 E. 23rd St., New York 10010, Exec. Dir.

AMERICAN MEDICAL WOMEN'S ASSOCIATION, Palm Beach, Fla., Nov. 7-10, 1973. Gertrude Conroy, 1740 Broadway, New York 10019, Exec. Sec.

ASSOCIATION OF AMERICAN MEDICAL COLLEGES, Washington, DC, Nov. 4-8, 1973. Dr. Charles C. Sprague, 1 Dupont Circle, NW, Washington, DC 20036, Chrmn.

■ **AMERICAN ASSOCIATION FOR CLINICAL IMMUNOLOGY AND ALLERGY, San Antonio, Nov. 29-Dec. 2, 1973. Dr. Robert J. Brennan, 3471 N. Federal Hwy., Ft. Lauderdale, Fla. 33306, Prog. Chrmn.**

ASSOCIATION OF MILITARY SURGEONS OF THE UNITED STATES, Washington, DC, Nov. 25-28, 1973. RADM. Walter Welham, 8502 Connecticut Ave., Chevy Chase, Md. 20015, Exec. Dir.

INTERNATIONAL CONGRESS OF GYNECOLOGICAL LAPAROSCOPY, New Orleans, Nov. 17-20, 1973. Dr. Jordan M. Phillips, 11239 S. Lakewood Blvd., Downey, Calif. 90241.

■ SOUTHERN MEDICAL ASSOCIATION, San Antonio, Nov. 11-14, 1973. Robert F. Butts, 2601 Highland Ave., Birmingham, Ala., Exec. Dir.

■ TEXAS ACADEMY OF FAMILY PHYSICIANS, San Antonio, Nov. 5-7, 1973. Donald C. Jackson, 1905 N. Lamar Blvd., Austin 78705, Exec. Off.

■ TEXAS DERMATOLOGICAL SOCIETY, San Antonio, Nov. 12-15, 1973. Dr. Eugene P. Schoch, Jr., 3A Medical Arts Sq., Austin 78705, Sec.

■ TEXAS NURSING HOME ASSOCIATION, San Antonio, Nov. 8-10, 1973. Sidney D. Rich, 6225 Hwy 290 East, Austin 78723, Exec. Off.

DECEMBER

AMERICAN ACADEMY OF DERMATOLOGY, Chicago, Dec. 1-6, 1973. Mrs. Betty Suor, 2250 NW Flanders St., Portland, Ore. 97210, Exec. Sec.

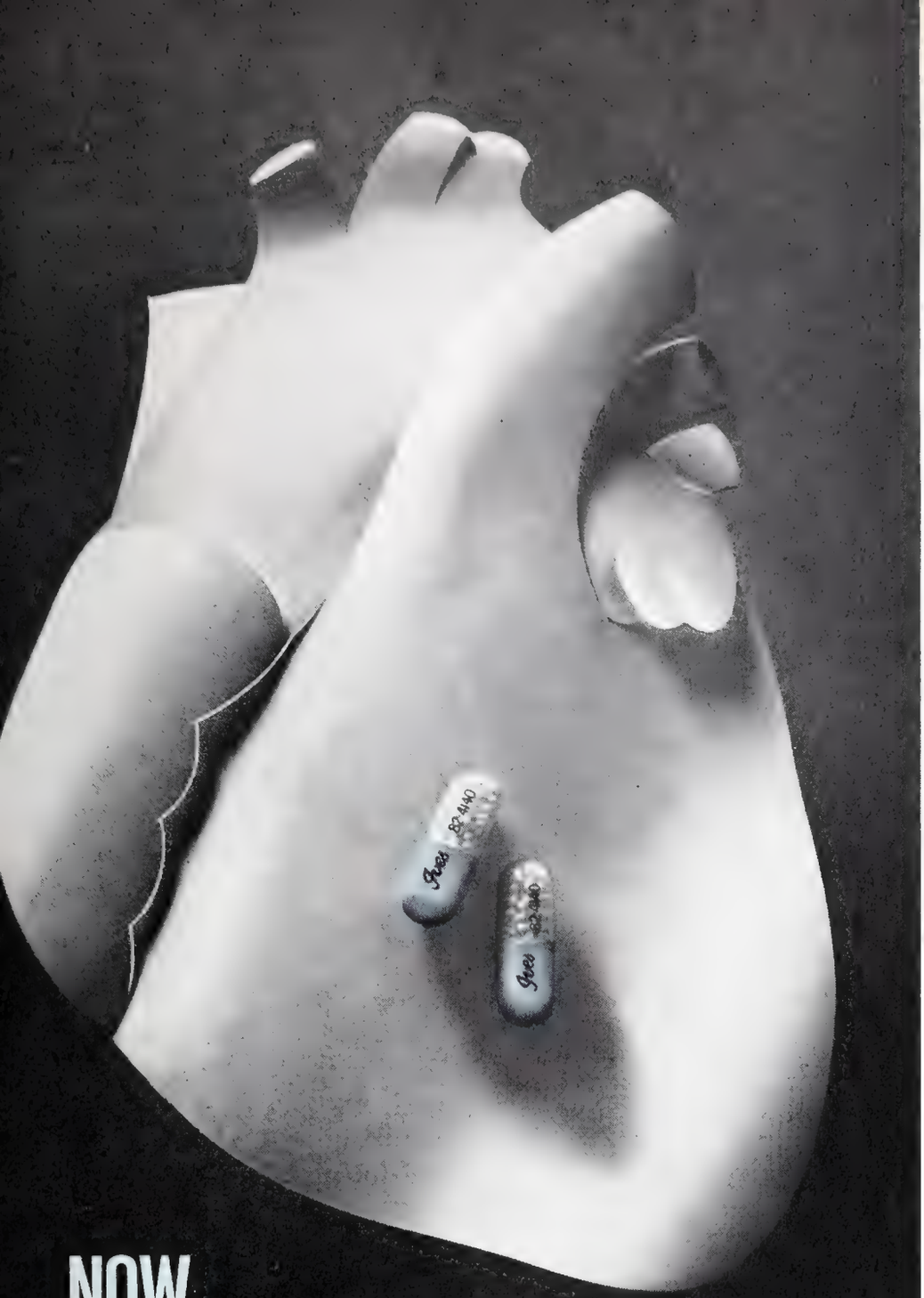
AMERICAN ACADEMY OF PSYCHOANALYSIS, New York City, Dec. 7-9, 1973. Dr. Jos. Barnett, 8 E. 77th St., New York 10009, Sec.

AMERICAN CANCER SOCIETY, INC., National Conference on Virology and Immunology in Human Cancer, New York City, Nov. 29-Dec. 1, 1973. Dr. Sidney L. Arje, American Cancer Society, Inc., 219 E. 42nd St., New York 10017.

AMERICAN MEDICAL ASSOCIATION, clinical convention, Anaheim, Calif., Dec. 1-5, 1973. AMA, 535 N. Dearborn St., Chicago 60610.

SOUTHERN SURGICAL ASSOCIATION, Hot Springs, Va., Dec. 3-5, 1973. Dr. David C. Sabiston, Jr., Dept. of Surgery, Duke University Medical Center, Durham, N.C. 27710, Sec.

■ SOUTHWESTERN GYNECOLOGIC ASSEMBLY, Dallas, Dec. 7-9, 1973. Dr. R. Mainord Todd, 8226 Douglas, Dallas 75225, Sec.



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One capsule b.i.d. helps protect your angina pectoris* patients for up to 24 hours a day.

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Widely accepted Isordil Tembids Tablets are now joined by an additional sustained action form, Isordil Tembids Capsules, providing greater prescribing flexibility.

***Indications:** Based on a review of this drug by the National Academy of Sciences—National Research Council and/or other information, FDA has classified the indication as follows:

"Possibly" effective: When taken by the oral route, Isordil (isosorbide dinitrate) is indicated for the relief of angina pectoris (pain of coronary artery disease). It is not intended to abort the acute anginal episode, but is widely regarded as useful in the prophylactic treatment of angina pectoris.

Final classification of the less-than-effective indications requires further investigation.

Contraindication: Idiosyncrasy to this drug.

Warnings: Data supporting the use of nitrites during the early days of the acute phase of myocardial infarction (the period during which clinical and laboratory findings are unstable) are insufficient to establish safety.

Precautions: Tolerance to this drug and cross-tolerance to other nitrites and nitrates may occur. In patients with functional or organic gastrointestinal hypermotility or malabsorption syndrome, it is suggested that either the ISORDIL 5 mg. or 10 mg. Oral tablets or sublingual tablets be the preferred therapy. The reason for this is that a few patients have reported passing partially dissolved ISORDIL TEMBIDS tablets in their stools. This phenomenon is believed to be on the basis of physiological variability and to reflect rapid gastrointestinal transit of the sustained action tablet. TEMBIDS SHOULD NOT BE CHEWED.

Adverse Reactions: Cutaneous vasodilation with flushing. Headache is common and may be severe and persistent. Transient episodes of dizziness and weakness as well as other signs of cerebral ischemia associated with postural hypotension may occasionally develop. This drug can act as a physiological antagonist to norepinephrine, acetylcholine, histamine, and many other agents. An occasional individual exhibits marked sensitivity to the hypotensive effects of nitrite, and severe responses (nausea, vomiting, weakness, restlessness, pallor, perspiration and collapse) can occur even with the usual therapeutic dose. Alcohol may enhance this effect. Drug rash and/or exfoliative dermatitis may occasionally occur.

Consult direction circular before prescribing.

May we send you reprints, detailed information and/or professional samples?

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Everybody experiences psychic tension.

Most people can handle this tension.

Some people develop excessive psychic tension and need your counseling,

and a few may need counseling
and the psychotropic action of Valium® (diazepam).

Before deciding to make Valium (diazepam) part of your treatment plan, check on whether or not the patient is presently taking drugs and, if so, what his response has been. Along with the medical and social history, this information can help you determine initial dosage, the possibility of side effects and the ultimate prospects of success or failure.

While Valium can be a most helpful adjunct to your counseling, it should be prescribed only as long as excessive psychic tension persists and should be discontinued when you decide it has accomplished its therapeutic task. In general, when dosage guidelines are followed, Valium is well tolerated (see Dosage). For convenience it is available in 2-mg, 5-mg and 10-mg tablets.

Drowsiness, fatigue and ataxia have been the most commonly reported side effects.

Until response is determined, patients receiving Valium should be cautioned against engaging in hazardous occupations requiring complete mental alertness, such as driving or operating machinery.

ROCHE
Roche Laboratories
Division of Hoffmann-La Roche Inc.
Nutley, N.J. 07110

Before prescribing, please consult complete product information, a summary of which follows:

Indications: Tension and anxiety states; somatic complaints which are concomitants of emotional factors; psychoneurotic states manifested by tension, anxiety, apprehension, fatigue, depressive symptoms or agitation; symptomatic relief of acute agitation, tremor, delirium tremens and hallucinosis due to acute alcohol withdrawal; adjunctively in skeletal muscle spasm due to reflex spasm to local pathology, spasticity caused by upper motor neuron disorders, athetosis, stiff-man syndrome, convulsive disorders (not for sole therapy).

Contraindicated: Known hypersensitivity to the drug. Children under 6 months of age. Acute narrow angle glaucoma; may be used in patients with open angle glaucoma who are receiving appropriate therapy.

Warnings: Not of value in psychotic patients. Caution against hazardous occupations requiring complete mental alertness. When used adjunctively in convulsive disorders, possibility of increase in frequency and/or severity of grand mal seizures may require increased dosage of standard anticonvulsant medication; abrupt withdrawal may be associated with temporary increase in frequency and/or severity of seizures. Advise against simultaneous ingestion of alcohol and other CNS depressants. Withdrawal symptoms (similar to those with barbiturates and alcohol) have occurred following abrupt discontinuance (convulsions, tremor, abdominal and muscle cramps, vomiting and sweating). Keep addiction-prone individuals under careful surveillance because of their predisposition to habituation and dependence. In pregnancy, lactation or women of childbearing age, weigh potential benefit against possible hazard.

Precautions: If combined with other psychotropics or anticonvulsants, consider carefully pharmacology of agents employed; drugs such as phenothiazines, narcotics, barbiturates, MAO inhibitors and other antidepressants may potentiate its action. Usual precautions indicated in patients severely depressed, or with latent depression, or with suicidal tendencies. Observe usual precautions in impaired renal or hepatic function. Limit dosage to smallest effective amount in elderly and debilitated to preclude ataxia or oversedation.

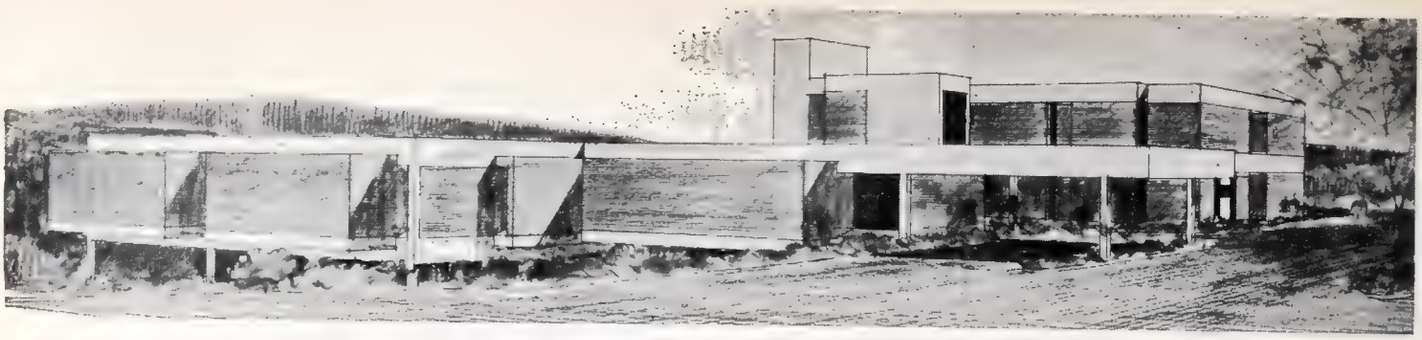
Side Effects: Drowsiness, confusion, diplopia, hypotension, changes in libido, nausea, fatigue, depression, dysarthria, jaundice, skin rash, ataxia, constipation, headache, incontinence, changes in salivation, slurred speech, tremor, vertigo, urinary retention, blurred vision. Paradoxical reactions such as acute hyperexcited states, anxiety, hallucinations, increased muscle spasticity, insomnia, rage, sleep disturbances, stimulation have been reported; should these occur, discontinue drug. Isolated reports of neutropenia, jaundice; periodic blood counts and liver function tests advisable during long-term therapy.

Dosage: Individualize for maximum beneficial effect. *Adults:* Tension, anxiety and psychoneurotic states, 2 to 10 mg b.i.d. to q.i.d.; alcoholism, 10 mg t.i.d. or q.i.d. in first 24 hours, then 5 mg t.i.d. or q.i.d. as needed; adjunctively in skeletal muscle spasm, 2 to 10 mg t.i.d. or q.i.d.; adjunctively in convulsive disorders, 2 to 10 mg b.i.d. to q.i.d. *Geriatric or debilitated patients:* 2 to 2½ mg, 1 or 2 times daily initially, increasing as needed and tolerated. (See Precautions.) *Children:* 1 to 2½ mg t.i.d. or q.i.d. initially, increasing as needed and tolerated (not for use under 6 months).

Supplied: Valium® (diazepam) Tablets, 2 mg, 5 mg and 10 mg; bottles of 100 and 500. All strengths also available in Tel-E-Dose® packages of 1000.

Valium®
(diazepam)

To help you manage excessive psychic tension



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CONTINUING EDUCATION COURSES

AUGUST

Dermatology: The 5th Aspen Conference on Dermatology, co-sponsored by the Rocky Mountain Dermatological Society and the University of Colorado School of Medicine will be presented at the Given Institute of Pathobiology in Aspen, Colo., Aug. 2-4. Featured on the program will be discussions on surgical techniques for dermatologists; dermatologic radiotherapy; practical aspects of corticosteroid therapy and immunosuppressive agents; systemic therapy in dermatology, including antibiotic therapy, drug interactions, methotrexate therapy, and medical use of drugs in nonapproved situations; basic concepts in immunology; newer developments in the cellular and molecular aspects of cancer; recent advances in immunodermatology; and immunological reaction patterns of the skin. Tuition fee: $90. Contact: Office of Continuing Medical Education, University of Colorado School of Medicine, 4200 East Ninth Ave., Denver 80220.

SEPTEMBER

Anatomy: The University of Texas Health Science Center at Houston will sponsor a course, "Regional Anatomy," Sept. 6, 1973-June, 1974, in Houston. Fee: $100. The course is accredited by the AAFP. Contact: Dr. Grant Taylor, Dean, Division of Continuing Education, UT Health Science Center at Houston, PO Box 20367, Houston 77025.

Cancer: The "1st Invitational Symposium on the Sero-Diagnosis of Cancer," cosponsored by the Laboratory Service, Naval Hospital, Bethesda; the College of American Pathologists; the American Society of Clinical Pathologists; and the Armed Forces Radiobiology Research Institute; will be held Sept. 29 in the Naval Hospital Auditorium, National Naval Medical Center, Bethesda, Md. Registration fee: $40. Contact: Symposium, College of American Pathologists, 1775 K St. N.W., Washington, DC 20006.

Cardiology: "Management of Cardiac Disease in Infancy" will be sponsored by The University of Texas Medical School at San Antonio Sept. 14-15, 1973. Emphasis of the course will be placed upon diagnosis and care of the infant with cyanotic heart disease and congestive heart failure with highlights of recent medical and surgical advances to be discussed. Fee: $50. Credit: 10 hours, AAFP and Category 1, Physician's Recognition Award. Contact: Dr. Paul Cutler, The University of Texas Medical School at San Antonio, 7703 Floyd Curl Dr., San Antonio 78284.

Basic Electrocardiography: Sponsored by UT Health Science Center at San Antonio, Sept. 13-Nov. 15, San Antonio. Fee: $50. Credit: 20 hours, AAFP and Category 1, AMA Physician's Recognition Award. Contact: Dr. Paul Cutler, Associate Dean for Clinical Affairs, UT Health Science Center at San Antonio, 7703 Floyd Curl Dr., San Antonio 78284.

Office Practice of Gynecology: Sponsored by South Plains Chapter, Texas Academy of Family Physicians and Texas Tech University School of Medicine, Sept. 15, Lubbock. Contact: Walter R. Gault, Texas Tech University School of Medicine, PO Box 4569, Lubbock 79409.

Oncology: A medical oncology course will be presented by The University of Texas System Cancer Center at M. D. Anderson Hospital and Tumor Institute at Houston in cooperation with The University of Texas Health Science Center at Houston, Sept. 24-28. The course is designed to review current concepts of the natural history, diagnosis, therapy, and clinical management of the spectrum of malignant disease cared for by the medical oncologist. It will consist of 32 hours of didactic lectures with time for discussion. Fee: $150. Credit: 32 hours. Contact: The Office of the Director, The University of Texas Health Science Center at Houston, Division of Continuing Education, PO Box 20367, Houston 77025.

Orthopedics: "What's New in Orthopaedics: Part I," cosponsored by the American Academy of Orthopaedic Surgeons and The University of Texas Medical School at San Antonio, will be presented Sept. 5-7 at the Convention Center, San Antonio. The purpose of the course is to stimulate the practicing orthopedist to attend a postgraduate program which will bring him up to date in approximately 15 different areas of orthopedics. Registration fee for physicians: $150; residents: $50; occupational and physical therapists: $50. Contact: Dr. Paul Cutler, Associate Dean for Clinical Affairs, 7703 Floyd Curl Dr., San Antonio 78284.

Surgery: The G. V. Brindley Lecture in Surgery will be presented Sept. 4 at Scott & White Hospital, Temple, Tex. Guest speaker is Dr. Charles Gregory. Contact: Department of Education, Scott & White Hospital, Temple 76501.

Workshop in Soft Tissue Surgery: Sponsored by UT Otolaryngology Training Programs, Sept. 21-23, Dallas. Fee: $100. Contact: Dr. Jack P. Gunter, Chairman, Division of Otolaryngology, UT Health Science Center at Dallas, 8210 Walnut Hill Lane, #314, Dallas 75231.

OCTOBER

Cardiology: Texas Tech University School of Medicine will present a one-day course entitled "Clinical Physiology of the Cardiovascular System," Oct. 18, 1973. Contact: Walter R. Gault, Texas Tech University School of Medicine, PO Box 4569, Lubbock 79409.

MORE CONTINUING EDUCATION COURSES

Coronary Artery Disease: Baylor College of Medicine in Houston will have a postgraduate course, "Coronary Artery Disease: 1973," Oct. 3-5. Contact: George E. Stewart, Jr., American Heart Association, 44 E. 23rd St., New York 10010.

Dermatology: The University of Texas Medical School at San Antonio will sponsor a two-day program, "Dermatology for the Family Physician," Oct. 27-28, in San Antonio. Credit: 8 hours, AAFP and Category 1, Physician's Recognition Award. Fee: $50. Contact: Dr. Paul Cutler, Associate Dean for Clinical Affairs, 7703 Floyd Curl Dr., San Antonio 78284.

Emergency Medicine: Four separate postgraduate courses, including emergency cardiac problems, trauma, acute respiratory problems, and advance nursing physician assessment of cardiovascular and respiratory systems, will be presented at the Scientific Assembly of the American College of Emergency Physicians and the Emergency Department Nurses Association to be held at the Dallas Convention Center, Oct. 23-25. Fee: $25 per course. Contact: American College of Emergency Physicians, 241 E. Saginaw St., East Lansing, Mich. 48823.

General Medicine: A symposium in general medicine will be presented by Tom Green Eight Counties Medical Society and Lederle Laboratories Oct. 27, in San Angelo. There is no fee for the course, and it is accredited for 6 hours by AAFP. Contact: Dr. John P. Coughlin, 2102 Pecos, San Angelo 76901.

Human Genetics: "Human Genetics for the Family Physician and the Pediatrician," sponsored by The University of Texas Medical School at San Antonio, will be presented Oct. 12-13, to review the principles of human inheritance and the current state of the most exciting "frontier" in clinical practice. Accreditation: 10 hours by the AAFP and Category 1, AMA Physician's Recognition Award. Fee: $50. Contact: Dr. Paul Cutler, Associate Dean for Clinical Affairs, 7703 Floyd Curl Dr., San Antonio 78284.

Medical Intensive Care: Cardiac and pulmonary problems which require intensive care will be the focus of the course sponsored by The University of Texas Medical School at San Antonio Oct. 11-Dec. 13. The course is accredited for 90 hours by the AAFP and Category 1 of the AMA Physician's Recognition Award. Fee: $150. Contact: Dr. Paul Cutler, Associate Dean for Clinical Affairs, 7703 Floyd Curl Dr., San Antonio 78284.

Oncology: Baylor College of Medicine at Houston will sponsor a course in clinical oncology Oct. 2-Dec. 14. Enrollment is unlimited and there is no fee. Teaching methods to be used are audiovisual materials, clinical conferences, lectures, open question and panel discussions, and seminars. Contact: Dr. Montague Lane, Division of Clinical Oncology, Baylor College of Medicine, Texas Medical Center, Houston 77025.

Psychiatry: Sponsored by The University of Texas Medical School at San Antonio, a course entitled "Psychiatric Treatment in the 70's" will be presented at the Inn of the Hills, Kerrville, Tex., Oct. 19-21. The course will include discussions on the referral of children, use of psychotropic drugs, treatment of adolescents, and new approaches to helping those with sexual disorders. This course is acceptable for 9 hours by the AAFP and Category 1, AMA Physician's Recognition Award. Fee: $60. Contact: Dr. Paul Cutler, Associate Dean for Clinical Affairs, 7703 Floyd Curl Dr., San Antonio 78284.

Rheumatology: "Rheumatology for the Family Physician," a course covering common rheumatic problems with emphasis upon diagnosis, interpretation of laboratory results, and both the principles as well as the specifics of management, will be presented Oct. 25-Dec. 20 by The University of Texas Medical School at San Antonio. The course is acceptable for 16 hours by the AAFP and Category 1, AMA Physician's Recognition Award. Registration fee: $50. Contact: Dr. Paul Cutler, Associate Dean for Clinical Affairs, 7703 Floyd Curl Dr., San Antonio 78284.

NOVEMBER

Pediatrics: "Office Practice of Pediatrics and Neonatology," a one-day course to be held Nov. 17, will be cosponsored by South Plains Chapter, Texas Academy of Family Physicians and Texas Tech University School of Medicine. The course will be held at St. Mary of the Plains Hospital, Lubbock. Contact: Walter R. Gault, Texas Tech University School of Medicine, PO Box 4569, Lubbock 79409.

DECEMBER

Auscultation of the Heart: This course, sponsored by The University of Texas Medical School at San Antonio, will offer the pertinent physiology and pathophysiology for the production of heart sounds and heart murmurs with concomitant presentation of these sounds using a cardiosimulator. Each enrollee will participate in an analysis of these findings using individual stethophones. The course will be held in San Antonio Dec. 8-9, and is acceptable for 10 hours AAFP and Category 1, AMA Physician's Recognition Award. Contact: Dr. Paul Cutler, The University of Texas Medical School at San Antonio, 7703 Floyd Curl Dr., San Antonio 78284.

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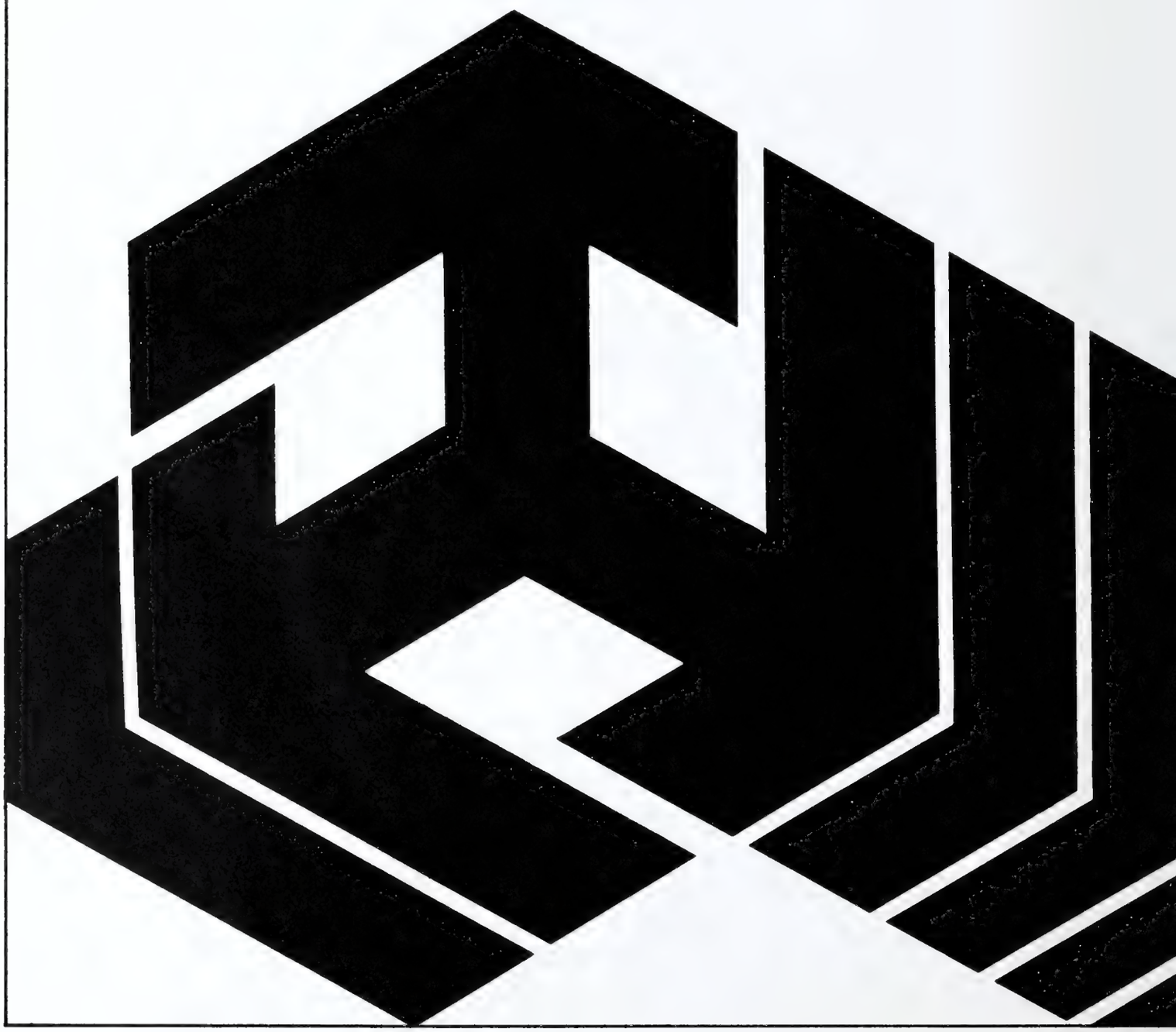

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Brief Summary

Indications—Placidyl (ethchlorvynol) is indicated as short-term hypnotic therapy in the management of insomnia.

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Warnings—Not recommended during the first and second trimester of pregnancy. Caution patients of possible combined exaggerated effects with alcohol, barbiturates, tranquilizers or other CNS depressants. Exaggerated effects might result in blurring of vision, paralysis of accommodation and profound hypnosis. Caution patients concerning driving a motor vehicle, operating machinery, or other hazardous operations requiring alertness after taking the drug. ADMINISTER WITH CAUTION TO PATIENTS WITH SUICIDAL TENDENCIES AND DO NOT PRESCRIBE LARGE QUANTITIES OF THE DRUG. Adjustment of the dosage of oral anticoagulants might be necessary when beginning ethchlorvynol therapy, during therapy, or after stopping therapy. This drug is not recommended for use in children. PLACIDYL HAS THE POTENTIAL FOR THE DEVELOPMENT OF PSYCHOLOGICAL AND PHYSICAL DEPENDENCE. INSTANCES OF SEVERE WITHDRAWAL SYMPTOMS, INCLUDING CONVULSIONS AND DELIRIUM CLINICALLY SIMILAR TO THOSE SEEN WITH BARBITURATES, HAVE BEEN REPORTED IN PATIENTS TAKING REGULAR DOSES AS LOW AS 1000 MG. PER DAY OVER A PERIOD OF TIME WHEN THE DRUG WAS SUDDENLY DISCONTINUED. PROLONGED ADMINISTRATION OF THE DRUG IS NOT RECOMMENDED. Addiction-prone patients or those who are likely to increase dosages of the drug on their own initiative should be observed for evidence of signs or symptoms which may indicate possible early withdrawal or abstinence symptoms. Signs and symptoms associated with withdrawal and abstinence include unusual anxiety, tremor, ataxia, slurring of speech, memory loss, perceptual distortions, irritability, agitation and delirium. Other less well defined signs and symptoms, not necessarily due to withdrawal and abstinence, may include anorexia, nausea or vomiting, weakness, dizziness, sweating, muscle twitching and weight loss. Abrupt discontinuance of Placidyl following prolonged overdosage may result in convulsions and delirium.

Precautions—Toxic amblyopia has been reported with long-term continuous use of ethchlorvynol. Permanent visual defects have been observed, although amblyopia has improved after discontinuation of the drug. Drug dosage should be limited for elderly and debilitated patients to the smallest effective amount. If pain is present, this drug should only be given if insomnia persists after pain is controlled with analgesics. Caution is advised in prescribing the drug for patients who are being treated with either MAO inhibitors or antidepressants. Transient delirium has been reported with the combination of Placidyl and amitryptyline. Drug dosage should be reduced if prescribed for patients receiving MAO inhibitors or antidepressants. Caution should be exercised in patients with impaired hepatic or renal function. Patients who respond unpredictably to barbiturates or alcohol, or who exhibit excitement and release of inhibition in association with such agents, may also react in this way to Placidyl. Rarely, patients may exhibit symptoms suggestive of an unusual susceptibility to the drug; such as prolonged hypnosis, profound muscular weakness, excitement, hysteria, or syncope without marked hypotension. Transient giddiness or ataxia may occur.

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Several events which have occurred during the past year will have a great impact on the management of renal disease in Texas. In August of 1972, a report, *The Renal Program for Texas,* was prepared and published by support from the Regional Medical Program of Texas (RMPT). A copy of this report has been mailed to all Texas physicians and a summary of it appeared in the December 1972 issue of *Texas Medicine*. Unfortunately, only part of the projects outlined in this report will be realized between January and August 1973, when the Renal Program of the RMPT will be terminated. In May 1973, the Kidney Health Care Act was passed by the Legislature; and, in January 1973 the first group of nephrologists in Texas became board certified in nephrology by the American Board of Internal Medicine which, in 1972, officially recognized nephrology as a subspecialty. Consequently, the publication of a symposium on the management of renal disease in *Texas Medicine* is a timely event which in some ways represents the culmination of the events of the past 12 months.

For the past three years the faculties of Baylor College of Medicine and The University of Texas have been presenting an annual symposium on the management of renal disease under the auspices of the Kidney Foundation of Houston and the Greater Gulf Coast. The articles appearing in this issue contain most of the material which was presented at the 1972 Symposium.

Dr. Fleisher's article summarizes his experience in diagnosing secondary hypertension, a condition which follows as well as causes kidney disease. Dr. Remmers reviews the more useful tests in evaluating kidney function and their interpretation. Dr. Beathard reviews in greater detail one of the hallmarks of kidney disease: proteinuria. The accompanying illustrations from his own studies of the renal biopsy findings in these patients present a clear demonstration of the underlying pathology.

Dietary management of the patient with renal disease greatly contributes to the well being of patients with reduced renal function prior to and during hemodialysis. Dr. Yium succinctly reviews this topic and tells how routine laboratory values may be utilized to tailor the appropriate dietary restrictions to the needs of the individual patient.

Diuretics were introduced for the management of salt retention associated with edema. Yet, as our understanding of these agents has increased, new uses have been found for them in nonedematous states. The article by Dr. Suki clearly outlines these uses and explains the underlying physiologic mechanisms. As with all drugs and perhaps slightly more so, it is impossible to administer diuretics without complications. Dr. Martinez-Maldonado reviews the electrolyte disturbances resulting from diuretic therapy, explaining the pathophysiologic mechanisms involved and what can be done to prevent them.

The other three articles concern drugs and the kidney. Most drugs or their metabolites are excreted by the kidney. The kidney therefore is not only prone to the development of toxic nephropathies, but the excretion of these drugs is reduced in renal disease when renal function is reduced and may result in drug intoxication unless the appropriate dosage reductions are instituted. The two groups of drugs high on any such list are antibiotics and cardiac glycosides. Dr. Sarles gives a useful table listing the recommended doses of potentially toxic antibiotics, depending on the level of renal function. Cardiac drugs are reviewed by Dr. Luchi in an article which not only gives the formulas used to calculate the dose of cardiac glycosides, but also gives cases showing how to arrive at the safe dose of one of the drugs with the lowest therapeutic index currently in the medical armamentarium.

G. Eknoyan, MD; Associate Professor of Medicine, Baylor College of Medicine.

Clinical evaluation of kidney function

A. R. Remmers, Jr., MD

Both diagnostic and functional studies are available for the clinical evaluation of patients with potential or established renal disease. Examples of the diagnostic studies are the urine sediment examination, renal biopsy, tests to evaluate the type and degree of proteinuria, and the various radiographic studies; however, discussion of these is beyond the scope of this article. Excellent reviews of these subjects, as well as comprehensive reviews of both research and clinical tests of renal function, can be found elsewhere.[1-6] The application and interpretation of tests of renal function generally are less well appreciated by the practicing physician, and they will be discussed here.

Renal Function Tests

The primary value of renal function tests is in staging the degree of functional impairment and attempting to assess an accurate prognosis and/or response to therapy. They are most useful when they are performed in a serial fashion over extended periods of time. Without such data plus an accurate diagnosis, prognosis in cases of renal failure is virtually impossible.

Glomerular Filtration Rate (GFR)

In addition to measuring the rate of glomerular filtration, the GFR test is also the best measure of overall renal mass in chronic renal failure. The GFR is calculated by the formula $\frac{UxV}{Px}$, where Ux is the urine concentration of test substance, Px is the plasma concentration of the test substance, and V is the volume of urine flow in milliliters per minute. The ideal test substance (X) is one which is filtered at the glomerulus and neither reabsorbed nor secreted by the renal tubule. Inulin fulfills this criteria, yet this clearance method is too time consuming and difficult for routine clinical use. It remains, however, the standard by which other measurements of GFR are compared. The normal GFR for an adult male is approximately 120 ml/minute.

Creatinine is liberated from the muscle at a constant rate and excreted by the kidneys. The serum level represents a steady state between liberation from muscle and renal excretion. Creatinine is filtered by the glomerulus and not reabsorbed by the tubule. Some distal tubular secretion does occur. Despite this the creatinine clearance (C_{cr}) is the most clinically useful measure of GFR. A 24-hour urine sample and a serum sample obtained during the collection period are necessary for the determination of C_{cr}. The 24-hour collection is important to minimize errors in volume collection. The considerable variation in the C_{cr} has been detailed by Dodge et al.[7] The normal value for men is approximately that of inulin clearance and is slightly lower in women. The creatinine clearance tends to significantly overestimate the true GFR when serious chronic renal failure is present, and thereby gives the physician a false sense of security concerning the patient's degree of renal failure.

Blood Urea Nitrogen (BUN) and Serum Creatinine (S_{cr})

The BUN is the most commonly ordered renal function test, yet it is subject to variability. Urea nitrogen is filtered by the glomerulus and partially reabsorbed by the renal tubule. Tubular reabsorption is in part dependent upon urine flow rate. For these reasons, GFRs based on clearance of urea nitrogen are not a valid reflection of

true GFRs. In addition to renal excretion, BUN levels are affected by extrarenal factors, primarily increases in load presented to the kidney. Three common sources of increased urea nitrogen load are high protein intake, the presence of blood in the gastrointestinal tract, and increased catabolism of body proteins. In these instances the BUN may rise without a change in GFR. These fluctuations secondary to increased extrarenal load are even more striking when there is a preexisting serious reduction in GFR.

The S_{cr} level is derived primarily from muscle metabolism and excreted by the kidney. The serum levels are not subject to fluctuations due to extrarenal causes since muscle metabolism is the only source of creatinine. Changes in S_{cr} values therefore are much more reliable reflections of changes in GFR. It is important to remember that neither the S_{cr} nor the BUN levels become elevated until there is a significant reduction in GFR, usually in the range of 50 cc/min. Therefore, an initial C_{cr} measurement is important to quantitate reduction in renal function. Thereafter, changes in S_{cr} values should accurately reflect changes in GFR, assuming there is a relatively constant muscle mass. When changes in S_{cr} levels do occur, a repeat C_{cr} should be done to confirm the change in GFR. Serial BUN determinations are a far less useful reflection of changes in GFR because of variation in urea load presented to the kidney.

The ratio of BUN to S_{cr} is normally about 10:1 and remains relatively constant throughout changes in GFR, providing the urea load is constant. Changes upward in the BUN:S_{cr} ratio indicate a greater than normal urea load presented to the kidney for reasons already detailed. A BUN:S_{cr} ratio of less than 10:1 would indicate a reduced urea load. This ratio is of particular value in evaluating patients with azotemia where it is of importance to know whether the urea nitrogen elevation is due to an increased urea nitrogen load, reduced renal function, or both. It is also of considerable value in the followup of patients managed with protein restriction as part of a therapeutic regimen for chronic renal failure. A low BUN:S_{cr} ratio indicates both satisfactory protein restriction and the absence of protein catabolism. For example, a patient with a stable GFR of 20 cc/minute will have a stable S_{cr} level in the range of 5 mg/100 ml. With an 80 gm protein intake, the BUN will be approximately 50 mg/100 ml. With a 120 gm protein intake the BUN will be in the range of 80 mg/100 ml, and with a 40 gm protein intake the BUN should be approximately 30 mg/100 ml. In all of these instances the S_{cr} and GFR will remain constant.

Tests of Tubular Function

The function of the renal tubule is complex and at times poorly understood. Additionally, individual substances are handled differently by the tubule. These individual tubular functions have little value in the practical assessment of renal function. The single most important and useful measure of tubular function is the ability of the kidney to elaborate a concentrated urine. After 14 hours of water deprivation, a kidney should be able to concentrate its urine from over 800 to 1,200 mOsm/kg water, or a specific gravity of 1.020 to 1.028. A reduction below this level would suggest interstitial (tubular) disease or the lack of antidiuretic hormone. If the latter is seriously considered, the concentration test can be repeated after administration of antidiuretic hormone. The spe-

cific gravity which measures the weight of a liquid, is comparable to the osmolarity in most situations. If glucose, mannitol, pyelographic contrast media, or large amounts of protein are present in the urine, the specific gravity may be falsely elevated due to the increased weight of the urine. The maximum urine concentration test is particularly useful early in the course of interstitial renal diseases such as chronic pyelonephritis and arteriolonephrosclerosis. Once significant chronic renal failure has developed, the urine concentration test has little value because it is routinely reduced to the level of plasma osmolarity. In such situations it may even be dangerous, as serious dehydration may be produced in patients with chronic renal failure, the consequences of which can be most serious.

Summary

The greatest value of clinical tests to assess the renal function is in assessing the degree of renal failure and in establishing a proper diagnosis. The C_{cr} test is the most valuable test of overall renal function. Once a significant reduction in renal function has been documented, changes in S_{cr} levels will reflect changes in GFR. These changes should, however, be confirmed by repeat creatinine clearance values. Elevations in BUN can be due to extrarenal causes as well as reduced renal function. It is, therefore, in itself a poor test of renal function. The ratio of BUN to S_{cr} is of considerable value in assessing the source of azotemia in patients with compromised renal function and evaluation of protein intake. The maximum urinary concentrating capacity is useful in instances of specific tubular disorders and early in the course of renal diseases where the predominant involvement is interstitial or tubular. It is not only of little value but actually may be dangerous in patients who have significant chronic renal failure.

References

1. Remmers AR, Jr, Smith GH, Sarles HE: The stained urinary sediment examination. Texas Med 63:53-57 (April), 1967.

2. Heptinstall RH: Pathology of the Kidney. Boston, Little Brown and Co, 1966.

3. Hardwick J, Soothill JF: Proteinuria, in: Black DAK, ed: Renal Disease, ed 2. Philadelphia, FA Davis, 1967.

4. Ollson O: Renal radiography, in: Strauss MB, Welt LG, eds: Diseases of the Kidney, ed 2. Boston, Little Brown & Co, 1971.

5. Relman AS, Levinsky NG: Clinical examination of renal function, in: Strauss MB, Welt LG, eds: Diseases of the Kidney, ed 2. Boston, Little Brown & Co, 1971.

6. Papper S: Clinical Nephrology. Boston, Little Brown & Co, 1971.

7. Dodge WF, Travis LB, Daeschner CW: Comparison of endogenous creatinine clearance with inulin clearance. Amer J Dis Child 113:683, 1967.

Dr. Remmers, Professor of Medicine, Department of Medicine; Co-Director, Division of Nephrology, The University of Texas Medical Branch, Galveston, Texas 77550.

Proteinuria and the nephrotic syndrome

Gerald A. Beathard, MD

Since Richard Bright's discoveries more than 140 years ago, proteinuria has been recognized as an important hallmark of renal disease. Even though proteinuria is probably the most common clinical expression of renal dysfunction, it can occur in the absence of renal disease; conversely, renal disorders such as pyelonephritis, obstructive uropathy, nephrolithiasis, neoplasia, and congenital malformation may be present without proteinuria.

Proteinuria is generally first detected by a routine urinalysis; however, routine urinalysis may be misleading and should not be regarded as being definitive. The normal kidney may excrete up to 150 mg of protein per 24 hours.[1,2] For this reason, a trace of protein in an extremely concentrated random urine sample may be within normal limits, while a trace of protein in a dilute random urine sample may indicate an abnormal situation. A finding of proteinuria (1+ to 4+) on a routine urinalysis should be regarded only as an indication for more intensive evaluation.

The first step should be a thorough renal-oriented history and physical examination. This may suggest or even indicate the most probable cause of the proteinuria; however, in certain patients the proteinuria may be completely asymptomatic. In either case, the next step is to determine if the proteinuria is persistent, if it has an orthostatic component, and to measure the amount of protein excreted in 24 hours. With this information one can determine if definite renal dysfunction is present, and can begin to categorize the type of abnormality.

Intermittent Versus Persistent Proteinuria

In any patient with proteinuria, but especially the patient with minimal proteinuria, efforts should be made to determine if the proteinuria is persistent or intermittent. Intermittent proteinuria is more likely to be associated with benign or functional conditions, while persistent proteinuria is more likely to be caused by a renal problem.[3] By checking random urine samples serially, it is possible to determine whether the condition is present constantly. When dealing with an outpatient, these serial checks can be done by the patient. Whether it is done in or out of the hospital, the urine should be checked immediately after arising in the morning as well as during the day. This will enable one to determine not only whether the proteinuria is persistent, but also to detect any orthostatic component to the problem. In any case, unless other causes are obvious, persistent proteinuria of any degree is presumptive evidence of renal disease. If the diagnosis is not readily apparent, percutaneous renal biopsy should be considered whether the condition is symptomatic or asymptomatic. This is especially true if the degree of proteinuria is more than minimal.

Benign Proteinuria

Even though intermittent minimal proteinuria may be associated with interstitial and vascular diseases of the kidney, it frequently is a manifestation of a benign condition. There are several types of proteinuria that have been called benign varieties. These include postural, or orthostatic, proteinuria and functional proteinuria.[3]

Orthostatic Proteinuria

Orthostatic, or postural, proteinuria is present at some time in approximately 3-5% of healthy adolescents and young adults.[4,5] Minimal proteinuria occurs during the day and disappears during the night while the patient is recumbent. Posture

probably is the most important factor in producing this pattern, since in such patients proteinuria can be induced simply by having them remain in the erect position. This effect is more pronounced when a lordotic posture is present. This type of proteinuria can be detected by having the patient assume a recumbent position after having completely emptied his bladder. After several hours, collect a urine sample. If the proteinuria is orthostatic, the urine sample collected after several hours in a recumbent position should be free of protein. This test is most easily done on an overnight basis. In most individuals who have intermittent orthostatic proteinuria, the condition is benign and not associated with other evidence of renal disease. Proteinuria with renal disease may have an orthostatic component, but it does not generally disappear completely with recumbency.

Functional Proteinuria

Functional proteinuria is a second type of benign proteinuria. This term refers to the proteinuria which is caused by exercise, fever, exposure to heat or cold, or occasionally by emotional stress associated with an increase in sympathetic nervous activity.[3] Such conditions may induce proteinuria of a minimal degree in previously nonproteinuric subjects without renal disease. This type, which at times is associated with cylinduria and even hematuria, may be seen in athletes following periods of extreme physical exertion. It appears to be related to the duration and intensity of the exertion and not due to renal trauma through body contact. Its incidence decreases with conditioning.[6] Very little is known about the mechanism responsible for functional proteinuria, but it appears that these forms are associated with relatively strong renal vasoconstriction which, when present, may persist for as long as 24 hours.

In general, the benign proteinurias can be fairly easily delineated by the fact that they involve minimal intermittent proteinuria and are associated with the types of situations described in relation to orthostatic and functional proteinuria. Even in these instances, however, most nephrologists feel that the patient who has benign proteinuria should be rechecked intermittently at intervals of 6 to 12 months. A small percentage may later develop manifestations of organic renal disease.[7]

History
1. Previous sore throat or skin infections
2. Family history of renal disease or deafness
3. Episodes of edema
4. History of hypertension
5. History of urinary tract infections
Physical
1. Elevated blood pressure
2. Funduscopic abnormalities
3. Palpable kidneys
4. Presence of edema
Laboratory
1. First
a. Urinalysis with careful microscopic examination
b. Serial checks to document persistence of proteinuria
c. 24-hour protein quantitation
d. BUN, creatinine, blood glucose
e. Urine culture
2. Second
Disease oriented studies
3. Third
Percutaneous renal biopsy

1. Protocol followed in working up a patient with proteinuria.

Urine Protein Quantitation

The primary purpose of urine protein quantitation is to distinguish between nephrotic and non-nephrotic types of renal lesions. Based on the amount of protein in a 24-hour urine specimen, proteinuria may be classified as minimal, moderate, or heavy (see Fig 2).

2. Categories of proteinuria.

0-150 mg	150-500 mg	500-3,500 mg	Over 3,500 mg
Normal	Benign causes	Mild forms of diseases	Lipoid nephrosis
	Pyelonephritis	that cause over	Glomerulonephritis
	1. Acute	3,500 mg	Diabetic glomerulo-
	2. Chronic	Pyelonephritis	sclerosis
	Polycystic kidneys	Nephrosclerosis	Lupus nephritis
	Nephrosclerosis		Amyloidosis
	Renal tubular dysfunction		Nonrenal causes
	syndromes		
	Latent glomerulonephritis		

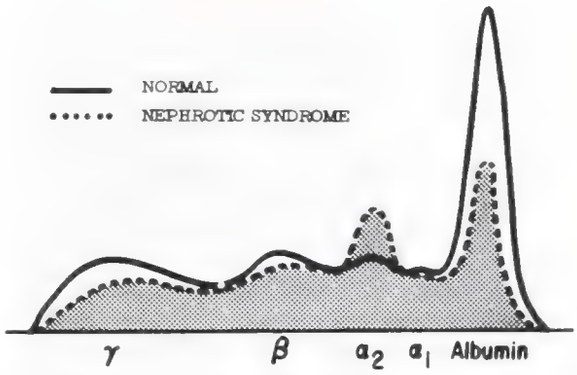
Nonrenal Causes of Proteinuria

Renal disease can occur in the absence of proteinuria, and proteinuria may be present in the absence of actual renal disease. The most prominent of the conditions that fall into this latter category, excluding conditions such as infection of the lower urinary tract which can cause mineral proteinuria, are circulatory conditions that cause proteinuria of varying degrees because of mechanical increase in renal venous pressure.[8] These conditions include constrictive pericarditis, tricuspid valvular insufficiency, congestive heart failure, inferior vena caval thrombosis, and renal vein thrombosis.

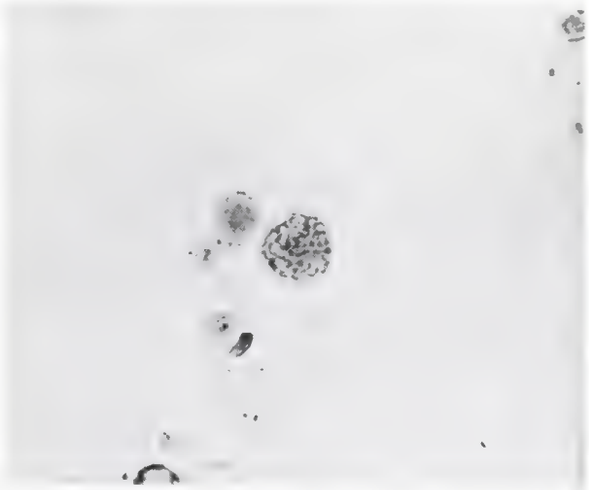
These conditions are often overlooked as diagnostic possibilities in evaluating the patient with proteinuria. They can cause varying degrees of proteinuria, even heavy proteinuria as seen in association with nephrotic syndrome. Renal vein thrombosis is a not infrequent cause of the nephrotic syndrome, and cases of nephrotic syndrome have been reported in association with severe congestive heart failure. The mechanism of proteinuria in these conditions seems to be related to an increase in renal venous pressure; the proteinuria associated with these conditions resolves with improvement of the mechanical situation, if improvement can be effected. This feature frequently helps in confirming this mechanism as the cause of proteinuria.

Selectivity of Proteinuria

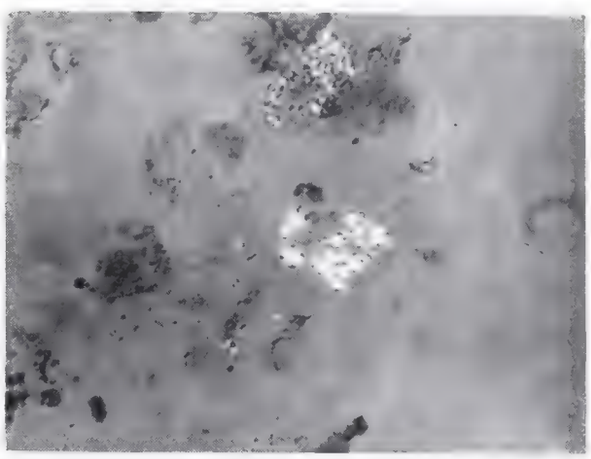
In the past, the concept of selectivity of proteinuria as a prognostic index has received considerable attention.[9] Using immunological methods urinary serum proteins of varying molecular weights can be measured. When relatively small amounts of high-molecular-weight protein are ex-



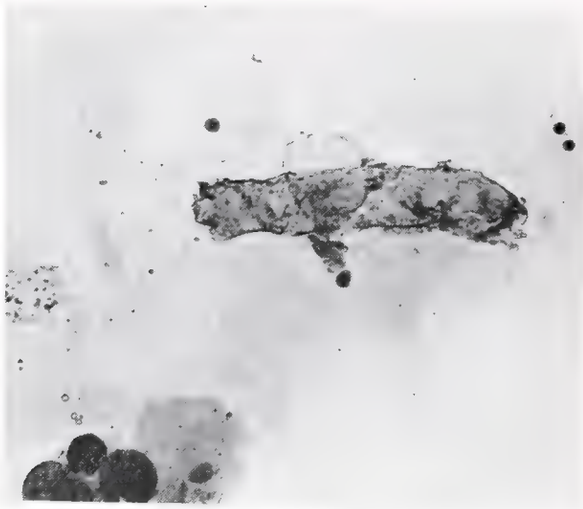
3. Normal serum protein electrophoresis pattern compared with that of patient with nephrotic syndrome.



4. Oval fat body in urine sediment of patient with nephrotic syndrome.



5. Cholesterol crystals in urine of patient with the nephrotic syndrome, viewed using polarized light producing the characteristic "Maltese cross" phenomenon.



6a. Lipid casts from patient with nephrotic syndrome.

6b. Same casts as shown in 6a viewed with polarized light.

creted, the proteinuria is said to be selective. When larger amounts of high-molecular-weight proteins are present, the proteinuria is said to be unselective. Studies based upon this principle have shown that selective proteinuria is associated with less severe glomerular diseases, while unselective proteinuria is associated with the more severe types of lesions. Some nephrologists believe that this index, reflecting the degree of increased glomerular permeability, is helpful in predicting response to therapy. With the widespread use of the percutaneous renal biopsy, which enables one to assess the severity of the glomerular lesion directly and objectively, studies to determine the selectivity of proteinuria are seldom used.

Nephrotic Syndrome

In its most severe form, heavy proteinuria can lead to a constellation of signs and symptoms recognized clinically as the nephrotic syndrome. Any of the diseases that cause heavy, persistent proteinuria (see Fig 7) may potentially lead to the nephrotic syndrome. Certain diseases causing only moderate proteinuria at most, such as pyelonephritis and nephrosclerosis, are excluded from this group.

The nephrotic syndrome classically is characterized as hypoproteinemia (less than 2.5 gm/100 ml albumin), hyperproteinuria (3.5 gm/24 hours), generalized body edema, hyperlipidemia, and lipiduria. This is a clinical syndrome and should not be regarded as a disease within itself. Most of the features of the syndrome are secondary to the altered physiology produced by the hypoalbuminemia leading ultimately to decreased intravascular oncotic pressure, hyperaldosteronism, and salt and fluid retention. The syndrome has multiple causes; some are intrinsic renal diseases,

others are systemic diseases which also affect the kidney, and others exert only a mechanical effect on the kidney.

Regardless of the cause of the nephrotic syndrome, the common denominator in each instance is an increase in glomerular filter permeability associated with an abnormality of protein and lipid metabolism. Studies with graded dextran have shown that the normal glomerular filter will retain substances of a molecular weight exceeding 5,000.[10] This number cannot, however, be considered absolute since molecular size is not the only determining variable. The passage of proteins and other large molecular substances through the glomerular filter is a complex and still poorly understood process dependent upon multiple factors. It is not simply a sieving process, as was once thought.[11] Some substances with molecular weights in the 40,000-60,000 range can be passed by the normal glomerular filter.

Consideration of the molecular weights of various serum proteins indicates that the normal glomerular filter should not allow plasma proteins to pass. With the development of a condition resulting in the nephrotic syndrome, the relative quantities of serum protein in the urine approximately correspond in an inverse fashion to the molecular size of the proteins. Albumin, of course, is the primary protein lost. In the nephrotic patient, serum protein electrophoresis classically shows a low albumin, normal or low alpha-1-globulin, an elevated alpha-2-globulin, a tendency towards elevation of the beta-globulins, and generally a low gamma globulin level[8] (see Fig 3). An exception to this pattern is seen in the nephrotic syndrome associated with lupus nephritis, where an elevated gamma globulin level is frequently seen. The alterations seen on serum protein electrophoresis are not the ones that one would necessarily ex-

1. Lipoid nephrosis
2. Glomerulonephritis
   a. Idiopathic membranous
   b. Chronic proliferative
   c. Membrano-proliferative
   d. Acute proliferative
   e. Rapidly progressive
   f. Focal
3. Metabolic diseases
   a. Diabetic glomerulosclerosis
   b. Amyloidosis
4. Systemic "autoimmune" diseases
   a. Systemic lupus erythematosus
5. Mechanical causes
   a. Renal vein thrombosis
   b. Inferior vena caval thrombosis
   c. Constrictive pericarditis
   d. Tricuspid valvular insufficiency
   e. Congestive heart failure
6. Nephrotoxins
   a. Organic mercurial diuretics
   b. Gold
7. Allergens and drugs
   a. Bee stings
   b. Severe allergic reactions to pollen, poison oak, or poison ivy
   c. Trimethadione & paratrimethadione
8. Infection
   a. Syphilis
   b. Malaria
   c. Cytomegalic inclusion disease
9. Congenital and hereditary-familial
10. Miscellaneous causes
    a. Eclampsia
    b. Transplantation

7. Causes of the nephrotic syndrome.

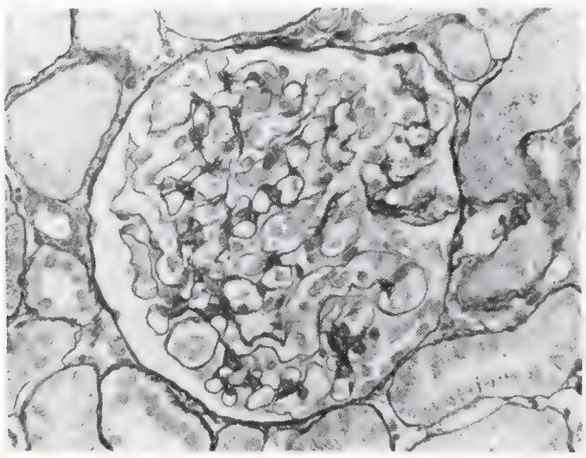
pect to see, considering only the molecular size of the proteins. This variation is caused by differences in metabolism of the various plasma proteins. In most instances, a good inverse correlation does exist between serum albumin and daily urinary losses of albumin.

There is hyperlipemia in most cases of nephrotic syndrome. In the nephrotic syndrome associated with lupus nephritis and in cases with more severe glomerular lesions, the hyperlipemia tends to be less severe.[9] Hyperlipemia results from an elevation of serum cholesterol, phospholipid, and triglyceride values. The cause of the hyperlipemia is poorly understood, but two explanations are generally offered: (1) the low serum protein concentrations limit binding and transport, and (2) stimulate hepatic production of protein, including lipoproteins. Even though many exceptions certainly exist, there is a reasonable correlation between decreased serum albumin levels and elevated serum lipid levels.[8]

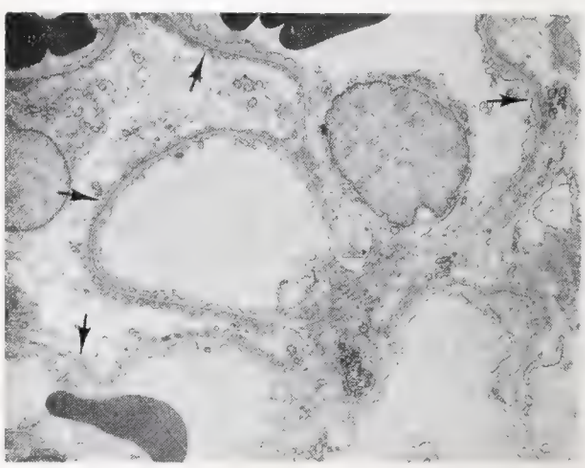
The loss of lipid in the urine has been recognized for many years in the nephrotic syndrome, and the value of a carefully performed microscopic examination of the urine sediment cannot be overemphasized in the diagnosis and management of patients with this problem. Because of the marked proteinuria, the urine sediment is usually characterized by a profusion of casts. An important characteristic of the urine sediment in the nephrotic patient is the presence of lipid material. This may be present either as fatty vacuoles in desquamated renal epithelial cells, droplets of neutral fat in casts, or oval fat bodies. Using polarized light, some of the lipid material in the urine sediment is seen as birefringent lipid material, some of which represents crystals of cholesterol esters and produces a "Maltese cross" phenomenon, which is extremely important in the diagnosis of the nephrotic syndrome from the urine sediment. In addition to these findings, the typical sediment findings of the primary disease causing nephrotic syndrome in the patient may also be seen.

The presence of the nephrotic syndrome is an important indication for a percutaneous renal biopsy, which is of greatest value in determining the prognosis in any given

8a. Light microscopic appearance of glomerulus from a kidney biopsy of a child with the nephrotic syndrome secondary to lipid nephrosis.



8b. Electron microscopic appearance of same biopsy shown in 8a. Arrows indicate areas of fusion of epithelial cell foot processes.



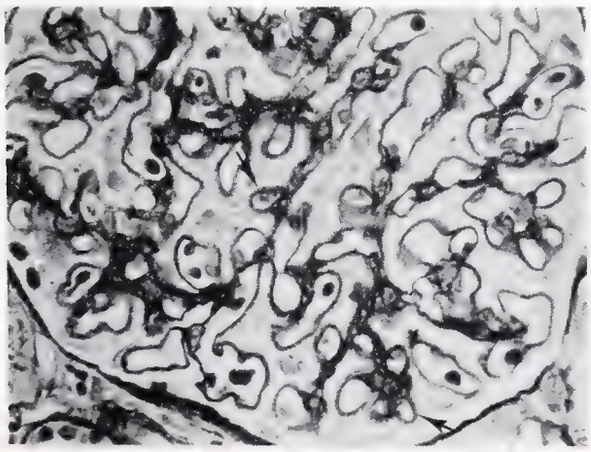
patient. However, there are certain clinical features that also may be helpful in determining the prognosis. In general, hypertension, azotemia, significant hematuria, and unselective proteinuria indicate a less favorable prognosis.[12,13] Another factor which apparently affects prognosis is the age of the patient; the prognosis is better for children than for adults. This relates to the fact that the nephrotic syndrome in children is more often associated with the minimal histological changes of lipoid nephrosis.[13-15] The severity of the edema, degree of proteinuria, and initial level of serum albumin do not adversely affect the prognosis.[13]

Even though there are many causes of the nephrotic syndrome, a limited number of diseases account for 99% of cases in both children and adults.[13] Cameron reported that in his series, 80% of adult and 96% of childhood cases were caused by intrinsic, primary renal diseases. The remainder were caused by systemic diseases. Schönlein-Henoch syndrome was the leading systemic disease in children and amyloidosis, lupus erythematosus, and diabetes mellitus, respectively, were the leading systemic diseases causing the nephrotic syndrome in adults.[13]

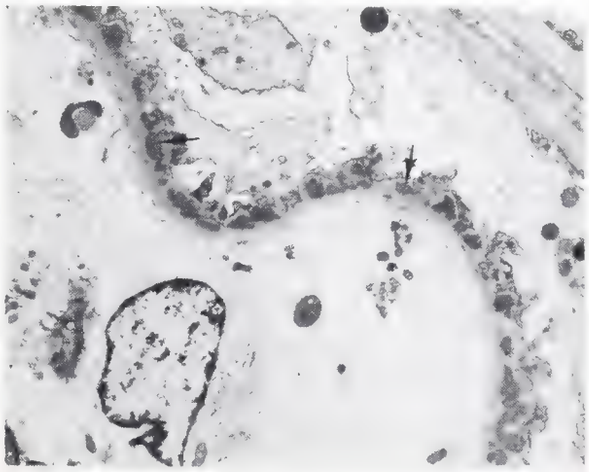
The experience in our institution differs from that of Cameron in that approximately 70% of the cases of nephrotic syndrome in adults have been the results of intrinsic renal diseases, while 30% have been related to systemic diseases. In this latter group, diabetes mellitus and lupus erythematosus have accounted for the majority, with only an occasional case of amyloidosis. In children, less than 2% of the cases of nephrotic syndrome have been related to systemic diseases.[15] Lupus erythematosus has accounted for the majority of these; only an occasional case related to diabetes mellitus or Schönlein-Henoch syndrome has been seen.

Of the intrinsic renal diseases causing the nephrotic syndrome in adults, chronic proliferative, membrano-proliferative, and mebranous glomerulonephritis have been the most common causes seen in our institution. Cases have been seen secondary to

9a. Light microscopic view of a portion of a glomerulus from an adult with nephrotic syndrome secondary to membranous glomerulonephritis. Arrows indicate the hairbrush appearance of thickened basement membrane as seen with a silver stain.



9b. Electron microscopic appearance of same biopsy specimen shown in 9a. Arrows indicate the antigen-antibody complexes deposited within the thickened basement membrane.



lipoid nephrosis, rapidly progressive glomerulonephritis, and focal glomerulonephritis less frequently. In children, the majority of cases have been due to lipoid nephrosis; the remainder have been due primarily to proliferative, membrano-proliferative, and membranous glomerulonephritis.[15]

The diseases, both intrinsic renal diseases and systemic diseases, which result in the nephrotic syndrome differ in prognosis, clinical course, and in many instances therapeutic requirements. These differences necessitate accurate and prompt diagnosis of the patient with the nephrotic syndrome. In some cases this diagnosis can be made on the basis of clinical data; however, in many cases a renal biopsy is required and should be performed as early as is practical.

References

1. McGarry E, Sehon AH, Rose B: The isolation and characterization of the proteins in the urine of normal subjects. J Clin Invest 34:832-844, 1955.
2. Rigas OA, Heller CG: The amount and nature of urinary proteins in normal human subjects. J Clin Invest 30:853-861, 1951.
3. Relman AS, Levinsky NG: Clinical examination of renal function, in: Strauss MB, Welt LB, eds: Diseases of the Kidney. Boston, Little, Brown and Co, 1971, ch 3.
4. Diehl HS, McKinley CA: Albuminuria in young men. In: Berglund H, Medes G, eds: The Kidney in Health and Disease. Philadelphia, Lea & Febiger, 1935, ch 28.
5. Kark RM: Proteinuria. II: Diagnosis and management. Hosp Practice 6:59-73, 1971.
6. Taylor A: Some characteristics of exercise proteinuria. Clin Sci 19:209-217, 1960.
7. Lecocq FR, McPhaul JJ, Robinson RR: Fixed and reproducible orthostatic proteinuria: V. Results of a 5-year follow-up evaluation. Ann Intern Med 64:557-569, 1966.
8. Schreiner GE: The nephrotic syndrome. In: Strauss MB, Welt LB, eds: Diseases of the Kidney. Boston, Little, Brown and Co, 1971, ch 16.
9. Blainey JD, Brewer DB, Hardwicke J, et al: The nephrotic syndrome. Diagnosis by renal biopsy and biochemical and immunological analyses related to the response to steroid therapy. Quart J Med 29:235-256, 1960.
10. Brewer DB: Renal clearances of dextrans of varying molecular weight. Proc Royal Soc Med 44:561-563, 1951.
11. Pollak VE: Proteinuria. I: Mechanisms. Hosp Practice 6:49-56, 1971.
12. Smith FG, Jr, Gonick H, Stanley TM, et al: The nephrotic syndrome: Current concepts. Ann Intern Med 76:463-477, 1972.
13. Cameron JS: Nephrotic syndrome. Brit Med J 4:350-353, 1970.
14. Adams DA, Maxwell MH, Bernstein D: Corticosteroid therapy of glomerulonephritis and the nephrotic syndrome: A review. J Chronic Dis 15:29-50, 1962.
15. Travis LB: Personal communication.

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Toxic nephropathies

G. Eknoyan, MD

Normally, the kidneys excrete a considerable fraction of practically all drugs in their active form or after transformation into metabolites. As a result, the kidneys are exposed to several agents some of which may induce adverse functional or structural renal changes. Such agents are referred to as nephrotoxins and the renal changes are called toxic nephropathy. In addition to exposure to nephrotoxins, several local factors contribute to the peculiar susceptibility of the kidney to damage by nephrotoxins (Fig 1). Of particular importance in this regard is the high concentration achieved in the kidney as a result of the high blood flow it receives and the urine concentrating process. Additionally, the high metabolic activity of this organ and its many enzymatic processes make it particularly vulnerable to injury by nephrotoxins.

A large number of individual agents has been incriminated for being directly nephrotoxic. Fig 2 gives a classification and partial listing of some of these agents. This article is concerned with therapeutic agents only, primarily because of their higher incidence as a cause of toxic nephropathy and because the type of damage they do is potentially preventable.

Analgesic Abuse Nephropathy

Kidney disease associated with abuse of analgesic preparations is being recognized increasingly. Spühler and Zollinger first drew attention to renal papillary necrosis and chronic interstitial nephritis in a group of patients who had ingested analgesic compounds regularly for many years.[1] Phenacetin was implicated because it was the only drug included in all the analgesic compounds ingested. This concept was quickly challenged, and clinical and experimental evidence was advanced that analgesics other than phenacetin may cause serious renal damage including papillary necrosis.[2,3] Considerable light has been shed on this problem recently by the studies of Goldberg et al who demonstrated in the dog that a high concentration of an active metabolite of phenacetin (acetyl-para-aminophenol), but not of aspirin, is achieved in the renal medulla similar to the concentration gradient achieved for urea; and that this concentration gradient is abolished by hydration.[4] In a subsequent study in rats, they showed that only animals that received the combination of phenacetin and aspirin and were water-restricted developed the characteristic histologic papillary changes of analgesic abuse nephropathy, indicating that the two drugs act synergistically to cause damage. By enzyme kinetic study, they went on to present evidence that the mechanism of this damage is oxidative. Aspirin inhibits defense against oxidants while phenacetin and its metabolites are the primary oxidants.

The term "analgesic abuse" implies the ingestion of more than a kilogram of aspirin or phenacetin over a few years, or the equivalent of six tablets a day for three years. The majority of abusers being women, the male:female ratio is 1:3-6. Most have varying degrees of psychological problems which are of major degree in about one-third, and often abuse other drugs and alcohol. These patients characteristically deny the use of analgesics. Indirect inquiry into painful complaints reveals the use of analgesics for headache, musculoskeletal pains, or "feeling bad." Further patient but firm probing often reveals that the patient actually ingests large quantities of analgesics.

Renal papillary necrosis is the primary lesion in the kidney. The cortical changes are the result of tubular atrophy and increased interstitial tissue which develops

as a direct consequence of necrosis in the areas immediately overlying the papillae.[6] Renal function shows great fluctuation, and patients may present with acute renal failure, severe pyelonephritis, or chronic renal functional impairment. Hypertension and anemia are also common features.[7]

The prognosis for these patients varies widely depending on the degree of damage sustained, and terminal renal failure will develop in about one-third, requiring supportive therapy in the form of dialysis or transplantation. The remainder, however, will show great improvement in renal function if analgesics are withdrawn completely.[8] This latter point becomes more important when one considers that analgesic nephropathy, with its long asymptomatic course before diagnosis, constitutes a pool of early stage renal disease which is potentially preventable. Considering the quantities of aspirin and phenacetin consumed annually (28 million and 7 million pounds, respectively), it is readily apparent that one is dealing with an endemic renal disease which, if detected, may also be prevented. Thus, a high index of suspicion among the population at risk is the responsibility of every physician.

Methoxyflurane Nephrotoxicity

Nephrotoxicity due to methoxyflurane was first reported by Crandell et al in 1966.[9] In 16 of their 94 patients receiving methoxyflurane, diuresis developed which lasted six to ten days and was unresponsive to antidiuretic hormone. Evidence of dehydration with hypernatremia and azotemia developed and lasted for three weeks.

To date, the evidence to condemn the continued use of methoxyflurane is inadequate.[10] There is, however, sufficient data to incriminate a dose-related effect of

1. Large Blood Flow (25% cardiac output)
   Exposed quickly to peak concentrations of drugs, even those circulating transiently
2. High Oxygen Consumption
   Susceptible to agents producing cellular anoxia
3. Urine Concentration—Countercurrent Mechanism
   Raises local concentration progressively throughout the nephron, particularly in medulla
4. Tubular Reabsorption
   Provides local exposure because of cellular penetration and interaction with carrier systems
5. Active Secretion
   Blockade of the numerous enzyme systems, mechanisms for protein unbinding

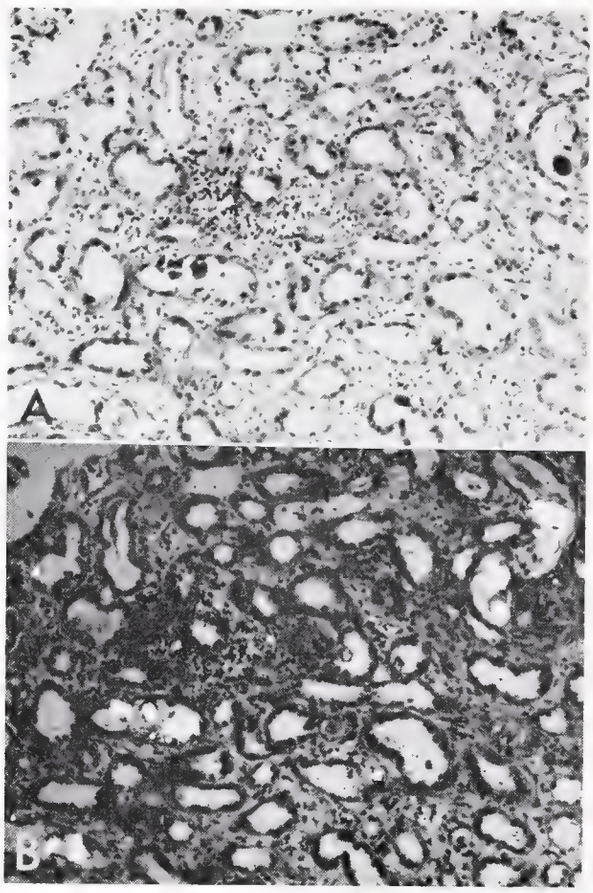
1. Local factors predisposing the kidneys to damage by nephrotoxins.

1. Abnormal Concentration of Physiologic Substances:
   Hypercalcemia, hyperuricemia
2. Metals:
   Mercury, bismuth, lead, gold
3. Organic Solvents:
   Carbon tetrachloride, methanol
4. Glycols:
   Ethylene glycol, propylene glycol
5. Osmotic Agents:
   Sucrose, mannitol
6. Insecticides:
   Chlorinated hydrocarbons
7. Miscellaneous Chemicals:
   Carbon monoxide, snake venom, mushroom poison, spider venom
8. Physical Agents:
   Radiation, heat stroke
9. Therapeutic Agents:
   Antibiotics
   Analgesics: salicylates, phenacetin, phenylbutazone
   Anesthetics: methoxyflurane
10. Diagnostic Agents:
    Radio-opaque, contrast agents in high concentration

2. Nephrotoxic agents.

1. Quantity of anesthetic used
2. Concentration administered
3. Duration of anesthesia (> 2 hours)
4. Obesity
5. Associated drugs: Tetracycline Barbiturates
6. Preexisting renal disease

3. Factors influencing methoxyflurane nephrotoxicity.



4. Renal biopsy specimen from a patient with methoxyflurane nephrotoxicity. (a) Note tubular dilatation, interstitial edema, and epithelial cell degeneration. (b) Same section examined with polarized light. Birefrigent oxalate crystals are evident.

methoxyflurane or one of its metabolites, particularly when the agent is used in high concentrations, for long periods, in obese patients (Fig 3).

Some reports of renal toxicity have implicated oxalate as a causative agent while others have implicated fluoride. Large quantities of fluoride are released after methoxyflurane anesthesia[11] and significant oxaluria up to ten times normal[12] ensues its utilization. Fluoride has been shown to cause polyuria and a variety of renal lesions in man. Additionally, hyperoxaluria with intrarenal precipitation of oxalate occurs in these patients (Fig 4) and may contribute to the development of oliguria[12] in addition to the severity and duration of the renal failure. The alterations in renal function vary from none in the majority of patients, to polyuria with moderate or severe decrease in glomerular filtration in some, and to severe oliguric renal failure in a few (Fig 5). The clinical course of a patient with methoxyflurane nephrotoxicity is illustrated in Fig 6.

Antibiotic Nephrotoxicity

Several of the antibiotics currently in use are potentially nephrotoxic and have been the subject of several reviews.[13,14] In most instances where antibiotics are administered, dehydration and hypotension secondary to the underlying infectious disease result in retention of the drug by kidneys already impaired in function, and lead to nephrotoxic serum concentrations of the drug. Cognizance of this problem and the careful use of the modified dosage schedule (as outlined in another article in this symposium) should prevent nephrotoxicity and allow the administration of these agents, even to patients with renal disease, with impunity.[14]

The nephrotoxicity of antibiotics is progressive and usually is reversible if detected early. Proteinuria, hematuria, and cylinduria are the earliest manifestations that accompany the reduction in renal function. Progressive azotemia then ensues at a time when the patient is not oliguric (Fig 7). The azotemia, however, may not reflect the severity of renal involvement if the patient is receiving fluids intra-

1. None

2. Polyuric renal failure

   A. Mild (over 2 hours of anesthesia)
   Modest ↓ GFR, slight ↑ BUN, Cr
   Decreased renal concentrating ability

   B. Moderate or severe (over 4 hours of anesthesia)
   Azotemia
   Hypernatremia—Dehydration

3. Oliguric renal failure

5. The spectrum of methoxyflurane nephrotoxicity.

venously and therefore is receiving a low protein load. In such cases, the creatinine level, as always, becomes a much better index of renal functional impairment. Indeed, every patient who takes potentially nephrotoxic antibiotics should have twice-a-week urinalyses as well as serum urea nitrogen and creatinine determinations. In those suspected of having reduction in renal function, the creatinine clearance should be measured after the initial dose of antibiotic has been administered, and the following dose should be reduced accordingly.

References

1. Spühler O, Zollinger HU: Die chronisch interstitielle nephritis. Z Klin Med 151:1, 1953.

2. Gilman A: Analgesic nephrotoxicity. A pharmacological analysis. Amer J Med 36:167-173, 1964.

3. Naura RS, Kincaid-Smith P: Papillary necrosis in rats caused by aspirin and aspirin-containing mixtures. Brit Med J 3:559-561, 1970.

4. Bluemle LW, Goldberg M: Renal accumulation of salicylate and phenacetin: Possible mechanisms in nephropathy of analgesic abuse. J Clin Invest 47:2507-2514, 1968.

5. Goldberg M, Myers CL, English PB, et al: The mechanism of analgesic abuse nephropathy. Abstracts of the V International Congress of Nephrology, 1972, p 49.

6. Kincaid-Smith P: Pathogenesis of the renal lesion associated with the abuse of analgesics. Lancet 1:859-862, 1967.

7. Gault MH, Rudenal TC, Engles WD, et al: Syndrome associated with the abuse of analgesics. Ann Intern Med 68:906-925, 1968.

8. Steele TW, Edwards KDG: Analgesic nephropathy—changes in various parameters of renal function following cessation of analgesic abuse. Med J Australia 1:181-187, 1971.

9. Crandell WB, Pappas SG, Macdonald A: Nephrotoxicity associated with methoxyflurane anesthesia. Anesthesiol 27:591-607, 1966.

10. Committee on Anesthesia. National Academy of Science. Methoxyflurane nephrotoxicty. JAMA 217: 958-959, 1971.

11. Taves DR, Fry BW, Freeman RB, et al: Toxicity following methoxyflurane anesthesia. II. Fluoride concentrations in nephrotoxicity. JAMA 214:91-95, 1970.

12. Frascino JA, Varamee P, Rosen PP: Renal oxalosis and azotemia after methoxyflurane anesthesia. New Engl J Med 283:676-679, 1970.

13. Kunin C: A guide to the use of antibiotics in patients with renal disease. Ann Intern Med 67:151-158, 1967.

14. Kunin C: Nephrotoxicity of antibiotics. JAMA 202:204, 1967.

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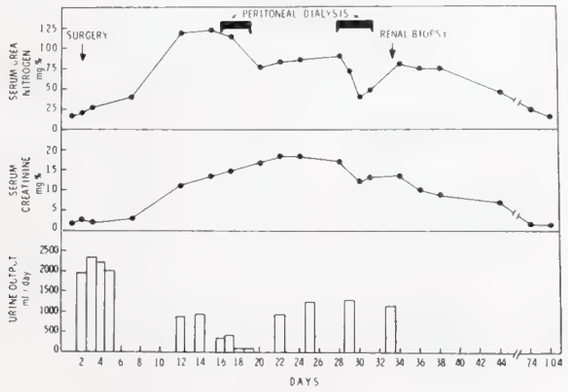
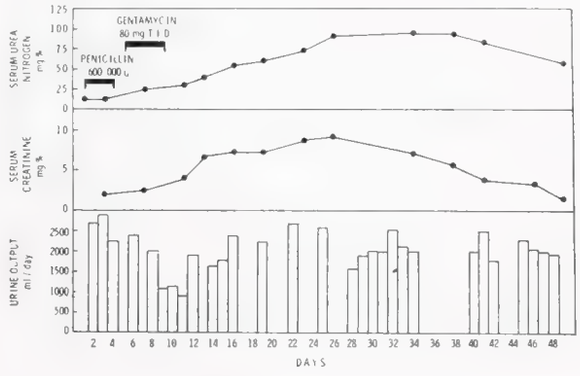
6. Clinical course of a patient with methoxyflurane nephrotoxicity. While urine outputs began to drop on day 12, oliguria occurred on day 16 after peritoneal dialysis had been instituted because of increasing serum urea nitrogen levels. A second peritoneal dialysis was performed on day 28. A renal biopsy, on day 32, is shown in Fig 4. The serum urea nitrogen and creatinine returned to normal levels after two months.



7. Course of renal failure due to gentamycin nephrotoxicity. Except on day 11, when the urine output was 900 ml, the patient's clinical course was characterized by continued adequate urine output. The serum urea nitrogen level reached 100 mg/100 ml on the 24th day, then slowly returned to normal range during the next two months.



Diagnostic considerations in secondary hypertension

Norman Fleischer, MD

Arterial hypertension is a common disorder with grave consequences to the health of our population. The cause and pathogenesis of this disorder in most patients is poorly understood. Nevertheless, in a small number of patients the hypertension is secondary to a disorder that can be recognized and frequently corrected. One of the enigmas for the physician is to detect those patients with secondary and correctable hypertension. The maneuvers utilized for this task must be relatively simple since the yield will be low (perhaps 10%) but they also must be reasonably accurate if the best of care is to be delivered.

In some cases, correcting the cause frequently will lead to cure or improvement of hypertension (Fig 1). This article presents the salient clinical and laboratory features of these various causes of secondary hypertension with the view of aiding the physician to decide on the most logical diagnostic work-up. A number of the potentially correctable forms of hypertension represent conditions in which the renin-angiotensin-aldosterone system plays an etiological role, and/or is to be considered in the diagnostic evaluation of the patient.

Renin-Angiotensin-Aldosterone System

The renin-angiotensin-aldosterone system plays a vital role in the regulation of electrolyte, fluid volume, blood pressure homeostasis in man. Abnormalities of this system are noted in some patients with essential hypertension, and in subjects with malignant hypertension, renovascular hypertension, primary aldosteronism and hypertension secondary to estrogen-containing anovulatory medication. The abnormalities in the renin-angiotensin-aldosterone system in some subjects with essential hypertension are of current interest.[1] The most common abnormality in essential hypertension is subnormal renin production which is found in 20% of subjects. The significance and cause of this finding is not completely understood. The essential components of the renin-angiotensin-aldosterone system can be measured and such measurements are available to physicians from multiple sources.

Renin is a proteolytic enzyme produced by the specialized juxtaglomerular apparatus of the kidney. A variety of stimuli that reduce "effective" or actual blood volume and/or pressure (including hemorrhage, sodium depletion, upright posture, and renal artery stenosis) promote the secretion of renin into the general circulation (Fig 2). Renin acts enzymatically on an α^2 globulin (angiotensinogen) in the plasma to split from this globulin a decapeptide, angiotensin I. Angiotensin I is further degraded enzymatically and primarily during passage through the lung to the octapeptide, angiotensin II. Angiotensin II has several physiological actions that include (1) arteriolar vasoconstriction, and (2) selective stimulation of aldosterone secretion by the zona glomerulosa of the adrenal cortex. The resultant aldosterone secretion promotes sodium reabsorption and potassium excretion by the kidney. This sodium reabsorption expands extracellular volume which, coupled with the vasoconstrictor nature of angiotensin II, tends to elevate blood volume and pressure and thereby exert a negative feedback on continued renin secretion.

Usually both angiotensinogen and the enzymes that convert angiotensin I to angiotensin II are present in sufficient amounts that their concentrations are not rate limiting. Thus, usually, the level of

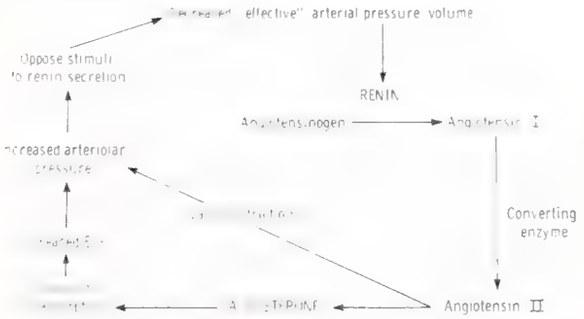
Supported by grant (RR-134) from the General Clinical Research Centers Program of the Division of Research Resources, National Institutes of Health.

renin in the blood is the most critical determinant of the level of angiotensin II. For clinical purposes, the most convenient method for measuring renin production is the estimation of plasma renin activity (PRA). This assay is performed on fresh frozen plasma and measures the amount of angiotensin I generated during a timed incubation of the patient's plasma at 37 C. Depending on dietary sodium intake and posture, the PRA value can vary widely in normals (Fig 3). For useful interpretation of results of PRA determination, it is essential that such factors as dietary sodium intake, posture, and drug intake be rigorously controlled. Furthermore, the known effects of posture and sodium balance on PRA levels are utilized in the clinical manipulation of patients in order to obtain interpretable diagnostic values. If we wish to know if PRA levels are abnormally high, then measurements are made when the patient should have high PRA values, such as after two to four hours in the upright posture, or following several days of a low sodium diet, or following diuretic-induced sodium depletion, or following a combination of several such manipulations.

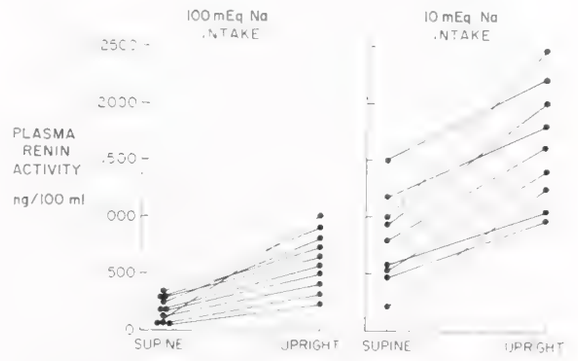
Measurements of aldosterone levels in plasma and urine are becoming increasingly available from commercial sources for diagnostic testings. Understanding the relationship between PRA levels and aldosterone secretion is critical for proper identification of certain forms of hypertension. In the absence of adrenal disease or hypokalemia, aldosterone secretion will parallel PRA levels in a predictable fashion. It should be emphasized that hypokalemia is associated with reduced aldosterone production, and potassium depletion resulting in normalization of serum potassium is critical before measuring aldosterone levels. Fig 4 illustrates the relationship between PRA levels and aldosterone secre-

Renal artery stenosis
Acute hydronephrosis
Renin-producing renal tumors
Primary aldosteronism
Hypertension secondary to oral contraceptive pills
Cushing's syndrome
Pheochromocytoma
Coarctation

1. Potentially correctable forms of hypertension.



2. Schematic representation of the physiology of renin and aldosterone secretion.



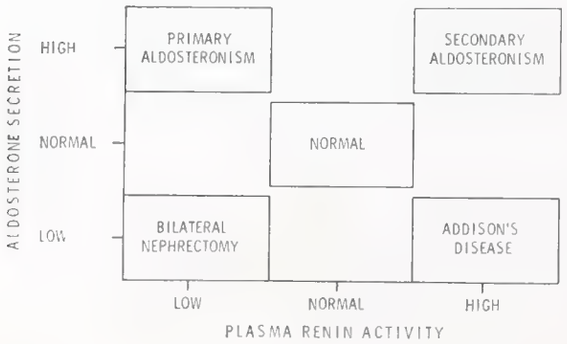
3. Plasma renin activity levels in ten normal subjects. Each subject was on a metabolic ward. Blood was collected for PRA determination after each subject had first equilibrated on a 100 mEq sodium diet and then on a 10 mEq sodium diet. Plasma for supine values was obtained after overnight bed rest and then for upright values after two to four hours in the upright posture.

tion. Aldosterone secretion can be low if PRA is low, indicating a disorder not of the adrenal but of renin production. Aldosterone secretion can be low despite elevated renin production if the adrenal gland is not functioning, as in Addison's disease. Aldosterone secretion can be elevated as the result of high renin production, and this is called secondary aldosteronism. Alternatively, aldosterone levels may be high despite low renin secretion, and this is called primary aldosteronism. Secondary aldosteronism is a usual concomitant of the great edematous states such as cirrhosis, nephrosis, and congestive heart failure. Secondary aldosteronism contributes heavily to the sodium retention seen in these disorders. Both primary aldosteronism and certain forms of secondary aldosteronism represent potentially correctable forms of hypertension.

Renal Artery Stenosis

Goldblatt[2] in 1934 made the observation that renal artery clamping induces a humorally mediated form of hypertension. Subsequently, many have suggested that this humor is renin, the secretion of which increases acutely in response to renal artery constriction. However, in experimental animals, the increased renin production frequently decreases to normal levels as chronic hypertension develops. This observation may imply other etiological mechanisms in the pathogenesis of renovascular hypertension. Alternatively, one might view normal levels of renin production as the consequence of a rise in blood pressure distal to the arterial obstruction. With this view these normal levels would be inappropriately high in view of the systemic hypertension. In man, functionally significant renal artery stenosis has many of the features of the animal model. In some patients there is high renin production associated with high aldosterone production and resultant hypokalemia. However, renin and aldosterone secretion are normal in many subjects with renal artery stenosis.

4. Schematic representation of the relationship between aldosterone secretion and plasma renin activity in normals and in subjects with disorders of renin and aldosterone production.



Renal artery stenosis is the most common form of surgically correctable hypertension. In most patients, history and physical examination fail to distinguish between renal artery stenosis and essential hypertension. At times, however, certain clinical features offer clues to the presence of renovascular hypertension. These include the abrupt onset or acceleration of hypertension, particularly if associated with flank pain or hematuria; the onset of hypertension at an unusual age ($<$ 35 years or $>$ 55 years); and the presence of renal artery bruits.

The most useful screening procedure for renal artery stenosis is the rapid sequence intravenous pyelogram (IVP).[3] It differs from the traditional pyelogram in that multiple x-rays are obtained during the first few minutes following the injection of contrast media. Unilateral renal artery stenosis is suspected if (1) there is delay in visualization of one side, (2) the kidneys are of unequal size and/or (3) there is hyperconcentration of the contrast media

on the affected side in later films. This last result is the consequence of the more avid reabsorption of water and electrolytes on the affected side. The IVP is not particularly useful in diagnosing segmental disease or bilateral disease. Isotopic renal scanning is another valuable screening procedure, but is not necessarily superior to the rapid sequence IVP.

The most direct means for demonstrating renal artery stenosis is by arteriography. This procedure alone offers information about the feasibility of surgical correction and is the only reliable means of demonstrating bilateral disease. However, this procedure is not innocuous. In our opinion, it should be performed only in those patients whose clinical presentation or rapid sequence pyelogram or renogram, or both, suggest renal artery stenosis, or whose medical therapy is particularly difficult, justifying another search for causative factors. While arteriography is the most direct means of demonstrating lesions of the renal artery and is often a major criteria for surgery, it is well to point out that procedures are available which estimate the functional significance of the renal arterial stenosis and offers a greater chance that reconstructive surgery will benefit the hypertension.[4] One approach is estimation of split renal function by differential ureteral catheterization and estimation of urine volume and sodium excretion, along with differential clearance studies (Howard test or Howard-Stamy test).[5]

Recently, a more popular and perhaps more useful estimation of the functional significance of renal arterial stenosis has involved estimation of renin secretion. In some patients with functionally significant renal artery stenosis, PRA levels performed after several days on a liberal salt intake, in the supine position, and in the absence of drugs, will be substantially elevated. In the absence of other causes, this elevation indicates that the ischemic kidney is hypersecreting renin. However, many patients with functionally significant renal artery

5. Renal vein plasma renin activity (PRA) levels in subjects with unilateral renal artery stenosis as demonstrated by arteriography.

Patient No.	Condition	PRA ng/100 ml			Affected: Unaffected	Interpretation
		IVC	Affected Side	Unaffected Side		
1	Supine	200	190	185	1:0	Studied when no secretion was occurring. Data are not interpretable. Following upright posture, renin secretion occurred from affected side indicating functionally significant stenosis.
	Upright	390	1,000	340	3:0	
2	Supine	400	1,000	400	4:0	Functionally significant renal artery stenosis.
3	Supine	1,800	3,600	1,800	2	Elevated basal secretion and ratio of 2:0. Both findings indicate functionally significant lesion.
4	Supine	190	200	220	1:0	At first study, no renin secretion occurred and data not interpretable. With diuretics, renin secretion occurred equally from both kidneys, signifying the absence of a functionally significant lesion.
	Diuretic	1,000	2,000	2,000	1:0	

stenosis will have normal circulatory levels of renin.[6] Based on the evidence that circulating renin is more apt to be released from the ischemic kidney than from the unaffected kidney, evaluation of PRA levels in the venous effluent of both kidneys has gained wide usage.[7] The finding that the ratio of PRA levels from renal venous effluent of the affected kidney as compared to the unaffected kidney is 2:0 or greater appears to correlate better with results of surgery than other diagnostic procedures. The actual values are not important, but the ratio is. Certain ambiguities in this approach are illustrated in Fig 5. In the absence of active renin secretion from the kidney, PRA levels in renal venous effluents merely reflect the systemic level and will not be different even in the presence of unilateral renal artery stenosis. Stimulation of renin secretion in renal artery stenosis (by such means as sodium depletion, tilting, and diuretics) magnifies the difference between the affected and unaffected sides and is more likely to result in renal venous PRA ratios of 2:0 or greater.

The ratio of renal vein PRA levels should also be useful in determining whether hypertension can be corrected by removing a kidney in patients with unilateral renal parenchymal disease. Generally, such patients have a low cure rate with unilateral nephrectomy,[8] and in most instances the renal vein PRA ratios are 1:0.

Occasionally increased renin secretion and hypertension are seen in subjects with hydronephrosis or renal tumors.[9] Documentation of elevated PRA levels is useful in evaluation of such disorders.

Primary Aldosteronism

When the adrenal gland autonomously produces aldosterone, as in the case of an aldosterone-producing adenoma, the aldosterone excess promotes extracellular volume expansion hypertension and suppression of renin secretion. An additional consequence is potassium depletion resulting in hypokalemia and often alkalosis. While this syndrome can occur in the absence of hypokalemia, most patients with primary aldosteronism have hypokalemia.[1] For practical reasons, we currently limit our work-up for primary aldosteronism to hypertensive patients with spontaneous hypokalemia. The presence of aldosterone excess (primary or secondary) is strongly suggested in a hypokalemic patient without primary renal disease who excretes $>$ 30 mEq/day of potassium while on a liberal sodium intake. Patients, for example, with diuretic-induced hypokalemia, excrete substantially less potassium upon withdrawal of the diuretic. The characteristic findings of subjects with primary aldosteronism include in addition to renal potassium wasting: (1) PRA levels that are low and do not rise normally following such maneuvers as upright posture, sodium depletion, and diuretic administration; and (2) aldosterone levels in urine and/or plasma that are elevated while the patient is on a liberal salt intake and fail to fall by the third day of administration of 20 mg/day of deoxycorticosterone acetate, or following the intravenous administration of 2 liters/day of normal saline over a two-day period.[1,10]

The latter maneuver confirms the autonomy of the aldosterone secretion, and the former confirms that the elevated aldosterone secretion is not dependent on renin production, ie, secondary aldosteronism. Most patients with these findings will have a unilateral adenoma and removal of this will generally improve the hypertension. However, in some patients, bilateral adrenal hyperplasia or even normal

adrenal glands will be found.[10] These patients generally have PRA levels and serum potassium levels higher than, and aldosterone levels lower than, subjects with typical adenomas. More important, hypertension is not frequently corrected by surgery unless a typical adenoma is present. A more precise diagnosis of an aldosterone adenoma can be made by adrenal vein venography, or even better by sampling both adrenal veins of aldosterone levels.[11]

There are other rarer conditions of documented mineralocorticoid hypertension that the interested reader may wish to consider.[10]

Oral Contraceptive Pills

It is now well recognized that an occasional woman who takes estrogen-containing oral contraceptive pills develops substantial hypertension that is alleviated by withdrawal of the pill.[1] The mechanism is not clear. Estrogen produces an increase in serum angiotensinogen. This results in greater angiotensin generation from secreted renin, resulting in secondary aldosteronism. However, levels of PRA and aldosterone are not different in patients taking estrogens who develop hypertension and in the majority who do not. Some subtle abnormalities in feedback of renin secretion have been postulated. Women who develop hypertension while taking oral contraceptives should have the estrogen-containing medications withdrawn.

Certain other curable forms of hypertension also need to be mentioned.

Cushing's Syndrome

Hypertension is seen in many subjects with cortisol excess. Unless other clinical features suggest the diagnosis, we do not feel that vigorous diagnostic evaluation is necessary. The simplest screen might be a 24-hour urine for 17-hydroxycorticosteroids. Should other features suggest Cushing's syndrome, then a more vigorous work-up is indicated.

Pheochromocytoma

Certain features suggest the diagnosis of pheochromocytoma. These include hypertension that may be episodic, tachycardia, excessive perspiration, anxiety, and orthostatic decrease in blood pressure. At times, pheochromocytoma coexists with neuroectodermal diseases (neurofibromatosis or Lindau-von Hippel disease), and with other endocrine tumors such as parathyroid tumors and medullary carcinoma of the thyroid. The various pharmacological maneuvers traditionally utilized as adjuncts to the diagnosis of this disorder are of interest. However, they are at times dangerous and are not specific for a diagnosis. Virtually all subjects with pheochromocytoma excrete in the urine excessive amounts of free catecholamines and the two major catechol metabolites, vanillylmandelic acid (VMA) and metanephrines. Estimation of one of these in a 24-hour urine specimen constitutes the most simple and effective means of diagnosis.[12] Levels are generally elevated both when patients are hypertensive and when they are not experiencing bouts of hypertension.

Coarctation

The salient feature of this disorder should be recognized on physical examination by appreciating the diminished and/or delayed femoral pulse wave and by the finding of a blood pressure in the leg that is substantially lower than in the arms. Chest x-ray will frequently show rib notching, and aortography will confirm the diagnosis.

Conclusions

While hypertension is a common disorder, the disorders discussed in this article represent a small percentage of the total incidence. The physician is faced with the problems of how far to go diagnostically in each patient. Views vary from the idea that virtually no work-up is necessary in the average patient with hypertension to the other extreme that each newly diagnosed patient should have an extensive in-patient evaluation, including many of the procedures outlined herein. Some degree of individualization is necessary for a rational approach to diagnostic considerations in the hypertension patient. The evaluation of a patient with mild hypertension beginning between ages 35-55 and a positive family history of hypertension might rationally involve a minimum work-up. A more vigorous work-up is in order if the patient is young, has severe hypertension, or any of the typical clinical findings of the various disorders we have mentioned.

A careful history and physical examination including evaluation for renal artery bruits and lower extremity pulses and blood pressure coupled with a urinalysis, serum creatinine, and one or two sets of serum electrolytes before treatment, a rapid sequence IVP, and a 24-hour urine test for catecholamines or their metabolites (for example VMA) are rather simple and readily available diagnostic tests.

This evaluation, if results are normal, excludes most of the diseases we have discussed. More sophisticated approaches can be dictated by the findings of these tests. For the younger patient, an isotopic renogram and/or renal arteriography might also be considered occasionally in the initial work-up. The proper use of estimation of PRA levels requires rigorous control of the state of salt balance and posture and drugs, and an understanding of the changes in levels of PRA and aldosterone seen not only in the conditions we have discussed, but also in both essential and malignant hypertension.[5]

References

1. Laragh JH, Baer L, Brunner HR, et al: Renin, angiotensin and aldosterone system in pathogenesis and management of hypertensive vascular disease. Amer J Med 52:633-652, 1972.
2. Goldblatt H, Lynch S, Hanzall RF, et al: Studies of experimental hypertension. 1. The production of persistent elevation of systolic blood-pressure by means of renal ischemia. J Exper Med 59:347-380, 1934.
3. Maxwell MM, Lupu AN: Excretory urogram in renal arterial hypertension. J Urol 100:395-406, 1968.
4. Kirkendall WM, Fitz AE, Lawrence MS: Renal hypertension, diagnosis and surgical treatment. New Eng J Med 276:479-485, 1967.
5. Stamey TA: Diagnosis of curable unilateral renal hypertension by ureteral catheterization. Postgrad Med 29:496-504, 1961.
6. del Greco F, Simon NM, Goodman S, et al: Plasma renin activity in primary and secondary hypertension. Medicine 46:475-490, 1967.
7. Bourgoignie J, Kurtz S, Catazaro FJ, et al: Renal venous renin in hypertension. Amer J Med 48:332-342, 1970.
8. Smith HW: Hypertension and urologic disease. Amer J Med 4:724-743, 1948.
9. Robertson PW, Klidgian A, Harding LK, et al: Hypertension due to a renin-secreting renal tumor. Amer J Med 43:963-976, 1966.
10. Biglieri EG, Stockigt JR, Schambelan M: Adrenal mineralocorticoids causing hypertension. Amer J Med 52:623-632, 1972.
11. Melby JC: Identifying the adrenal lesion in primary aldosteronism. Ann Intern Med 76:1039-1041, 1972.
12. Sjeordsma A, Engelman K, Waldman TA, et al: Pheochromocytoma: current concepts of diagnosis and treatment. Ann Intern Med 65:1302-1326, 1966.

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Determination of diet orders by analysis of lab values

Jackson J. Yium, MD

The present use of diets in patients with kidney failure is a major advance in our understanding and treatment of renal disease. The success of this therapy depends on understanding the pathophysiological processes involved. The physician must work closely with the dietitian, who must explain the diet and devise means to make it palatable, and the patient who must adhere to it. The amount of protein, sodium, potassium, and fluids prescribed will depend on many factors in the patient's clinical evaluation. Laboratory studies are an indispensable part of this evaluation and often serve as guidelines for ordering the diet.

Protein

A major improvement in dietary treatment of patients with chronic renal failure has been brought about by the work of Giordano,[1] Giovannette and Maggiore.[2] Protein-restricted diets had long been used in patients with renal failure.[3] It was known that the protein content of the diet influenced the magnitude of the azotemia. Giordano, Giovannette and others[4] have shown that in patients with chronic renal failure nitrogen balance can be maintained if the restricted protein utilized is of high biological value (high in essential amino acids) and provides adequate calories to prevent the breakdown of protein for caloric requirements. The diets decrease the level of blood urea nitrogen (BUN) and lessen some of the gastrointestinal symptoms associated with uremia. This does not necessarily prolong the patient's life. The amount of protein and calories to be prescribed in these diets will depend on level of renal function, nutritional status of the patient, and losses of protein or amino acids that might occur through the urine, peritoneal dialysis, or hemodialysis.

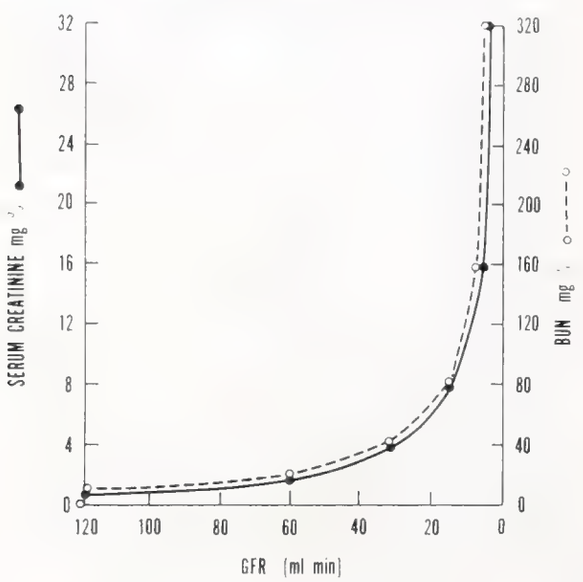
Laboratory values that are helpful in determining the amount of protein to prescribe include the BUN, serum creatinine, creatinine clearance, serum protein electrophoresis, and the 24-hour urine protein excretion. The BUN, the serum creatinine, and the creatinine clearance are the most widely utilized indices of renal function. The serum creatinine and creatinine clearance are the most reliable of these tests. Creatinine is an end product of creatinine metabolism in muscle, and the serum value is usually constant from day to day and not greatly altered by such factors as physical activity, diet, or protein catabolism. Creatinine excretion generally depends almost entirely on glomerular filtration. If the timed urine excretion of creatinine is measured and the serum creatinine level is known, then a creatinine clearance can be calculated. This is expressed as milliliters per minute, and is an approximate estimate of the glomerular filtration rate (GFR) and the patient's level of renal function. In assessing a patient's level of renal function, serial measurements often are more important than any single determination. The BUN level is a less reliable index of renal function. It is subject to changes in the nitrogen load such as might occur with gastrointestinal bleeding or increased protein catabolism. Also, it will rise proportionately more than the serum creatinine during dehydration, volume depletion, or heart failure. The usual ratio of the BUN to serum creatinine is 10:1 (Fig 1) and usually does not exceed 15:1. A ratio greater than this usually indicates one of the aforementioned conditions which has been referred to as "prerenal azotemia."

The relationship between serum creatinine, BUN, and GFR is illustrated in Fig 1. During the early stage of renal disease large increases in GFR (ie, 120 ml/minute to 60 ml/minute) may be accompanied by

only relatively small absolute increases in BUN and creatinine (ie, BUN 8 to 16 mg/100 ml, and serum creatinine 0.8 to 1.6 mg/100 ml). Thus the creatinine clearance during the early stages of renal failure is a more accurate index of renal function, while later in the course of renal disease the serum creatinine level approaches the creatinine clearance in accuracy.

While the serum creatinine and creatinine clearance values are more reliable in following renal function, the BUN level is useful in that it serves as a clinical index by which one may anticipate the occurrence of uremic complications. It may also serve as a guide to the effectiveness of dietary or dialysis therapy. Bleeding complications and gastrointestinal symptoms such as nausea and vomiting occur when the BUN level rises above 100 mg/100 ml. Reduction of the BUN to below this level by diet or dialysis therapy will reduce these complications. Fig 2 summarizes the diets and guidelines for prescribing the diets utilized by the Renal Service of Houston VA Hospital. Severe protein restriction is not used until the GFR falls below 20 ml/minute. Protein losses by urine or peritoneal dialysis are added to the basic regimen. Patients with severe renal failure (GFR of less than 5 ml/minute) do not respond well to diet alone and usually need some form of dialysis. Patients with chronic renal disease with only slight to moderate renal insuffiency (GFRs between 30-80 ml/minute) do not require severe protein restriction. However, recent evidence indicates that phosphate in the diet should be reduced in proportion to the fall in GFR in this group of patients.[5] Mild elevation of the serum phosphate by renal insufficiency with reciprocal hypocalcemia has been shown experimentally to lead to the development of secondary hyperparathyroidism. This secondary hyperparathyroidism may be an important cause of disability in patients with chronic renal failure. Bone disease, itching, and even possibly neuropathy might be due to secondary hyperparathyroidism. At the present time, studies are being carried out to determine the usefulness of these diets in humans.

1. Relationship between serum creatinine, BUN, and glomerular filtration rate.



In the hemodialysis patient, protein is given at a level of 1 gm/kg body weight. If the patient is underweight, then amounts of protein in the upper range of the caloric value (45 calories/kg body weight) are prescribed. In the chronic hemodialysis patient, the following laboratory parameters are the goal: a predialysis BUN level of less than 100 mg/100 ml and a serum albumin level of at least 4.0 gm/100 ml (normal 4.0-5.2 gm/100 ml). Many patients entering the hemodialysis program are malnourished, and this is reflected in their serum albumin levels. If they respond to the dialysis and the diet, then their serum albumin level will rise into the normal range. Fig 3 shows the changes in BUN, creatinine, and serum albumin in

3. Changes in BUN, serum creatinine, and serum albumin levels in 20 patients on chronic hemodialysis.

	Pre Hemodialysis	Chronic Hemodialysis
BUN (mg/100 ml)	148 ± 26	84 ± 26 SD
Creatinine (mg/100 ml)	19 ± 6	14 ± 4 SD
Albumin (gm/100 ml)	3.4 ± .5	4.3 ± .5 SD

20 patients after six months of chronic hemodialysis. These changes in serum albumin are similar to the findings reported by Fish et al.[6]

Sodium, Potassium and Fluids

In most cases patients with renal disease will need regulation of their sodium, potassium, and fluid intake and these items must be considered in preparing their diet orders. The proper amount of salt for a patient with renal disease cannot be discerned by the serum sodium concentration. The serum sodium concentration may be more often a guide to patient's fluid needs than to his salt needs. The amount of sodium to prescribe will depend on whether or not the patient suffers volume depletion, his level of renal function, the amount of sodium that may be lost in the urine, and the presence or absence of hypertension or congestive heart failure. The measurement of the 24-hour sodium and potassium excretion in the urine may be a helpful guide. The patient should be evaluated while he is on a fixed sodium diet (40 mEq) for at least three or four days. Sodium retention ($<$ 10 mEq/24 hours) and high potassium excretion usually indicate that the patient is retaining sodium (extrarenal losses such as excessive sweating or diarrhea should be excluded.) Salt retention can occur as a result of volume depletion due to vomiting, diarrhea, or prior diuretic administration. In these instances additional sodium in the diet is needed. However, salt retention may occur in certain edematous states such as congestive heart failure, liver failure, and nephrotic syndrome. In these instances sodium restriction is indicated.

Patients with chronic renal insufficiency during the course of their disease lose their ability to "finely" regulate sodium excretion. They usually will have an obligatory daily loss of sodium which is a result of their increased urea excretion per nephron. This usually is within a range of 20-40 mEq/day. If the physician is not appreciative of the amount of sodium a patient may

2. Diets for renal patients.

Type of Patient	Protein	Calories	Sodium	Potassium	Modifications
Nephrotic No renal failure	1.5 gm/kg/body wt plus urine losses	No restriction	20 mEq	No restrictions	May use a diuretic and less sodium restriction.
Renal failure Creatinine Cl $<$ 20 ml/min BUN $>$ 80 mg/100 ml Creatinine $>$ 8 mg/100 ml	0.5 gm/kg body wt. High biological value (HBV). 22-40 gm protein usually	35-45 calories kg/body wt. 1900 calories	15-20 mEq†	30-40 mEq	Supplemental water soluble vitamins needed. Diet not effective in patients with GFR $<$ 5 ml/min.
Hemodialysis	1 gm/kg body wt (60% HBV)	35-45 calories kg/body wt	20 mEq†	40-60 mEq	Add water soluble vitamins, iron supplement.
Peritoneal dialysis	0.5 gm/kg body wt (HBV) plus 50 gm dialysis	35 calories kg/body wt	20 mEq†	30-40 mEq	Water soluble vitamins.

†Modify if there are excessive urine sodium losses or extrarenal losses.

be wasting in his urine and severe dietary restriction is imposed, then volume depletion and deterioration in renal function may occur. Often the proper amount of sodium to prescribe can only be determined by measuring the patient's urine sodium excretion after he has been four days on a 40 mEq sodium diet. Daily body weight and renal function should be monitored during this period. The excretion of urine sodium greater than intake, accompanied by weight loss, and decrease in renal function indicates that more sodium is needed. In most instances the presence of heart failure or severe hypertension requires sodium restriction regardless of the amount of sodium lost in the urine.

The serum sodium concentration may serve as a parameter in determining oral fluid requirements. Hyponatremia (serum sodium $<$ 135 mEq/liter) in an edematous patient indicates a need for water restriction. Hypernatremia (serum sodium $>$ 150 mEq/liter) usually indicates dehydration or excessive losses of water that may occur with diabetes insipidus or osmotic diuresis and indicates a need for increased water intake. If the serum sodium is normal and there is not excessive edema, then the amount of fluids prescribed for a renal patient usually should equal the maximal urine output plus other measurable losses, and 400-600 ml to cover insensible losses.

Hyperkalemia (serum K+ $>$ 6.0 mEq/liter) is a common problem encountered in the patient with renal failure. Its presence usually indicates failure to follow the diet or poor control of the renal failure. If there is persistent hyperkalemia, potassium in the diet should be reduced to below 40 mEq/day. This, however, makes the diet less palatable since many tasty foods such as fruits have a high potassium content. Correction of acidosis, more frequent dialysis, and sodium exchange resins can also be utilized to lower the serum potassium. Acidosis can be treated with alkali therapy in the form of oral sodium bicarbonate tablets or a sodium citrate solution (Shohl's solution*). This latter will provide 1 mEq of bicarbonate and 1 mEq of sodium per milliliter of solution. Most patients with chronic renal failure will need between 40-90 mEq of bicarbonate a day to maintain their serum bicarbonate level between 18-24 mEq/liter. Diet, dialysis, and alkali therapy are the preferred methods to prevent hyperkalemia. In some instances, however, an oral sodium cycle resin (Kayexalate) may be used. The average daily dose is 20-60 gm in divided doses. Sorbitol (20 ml of 70% solution), a poorly reabsorbed sugar, should also be given to provide a laxative action. With both the Shohl's solution and sodium exchange resin, the patient receives additional sodium loads and should be observed for the development of edema or heart failure.

In most instances, patients will need to be admitted to the hospital for observation at some time during the course of their renal disease. During this time, the patient can undergo many of the aforementioned studies. The physician can then prescribe the proper diet, salt, and water, according to the patient's needs.

References

1. Giordano C: Use of exogenous and endogenous urea for protein synthesis in normal and uremic subjects. J Lab Clin Med 62:231-246, 1963.

2. Giovannetti S, Maggiore Q: A low nitrogen diet with proteins of high biological value for severe chronic uremia. Lancet 1:1000-1003, 1964.

3. Kolff WJ: Forced high caloric, low protein diet and the treatment of uremia. Amer J Med 12:667-679, 1952.

4. Ford J, Phillips ME, Toye FE, et al: Nitrogen balance in patients with chronic renal failure on diets containing varying quantities of protein. Brit Med J 1:735-740, 1969.

5. Slatopolsky E, Caglar S, Rutherford E: On the development of secondary hyperparathyroidism in uremia; the central role of phosphorus. V International Congress of Nephrology, Plenary Sessions, Abst. p 51, Mexico City (Oct 8-13) 1972.

6. Fish JC, Remmers AR, Jr, Lindley JD, et al: Albumin kinetics and nutritional rehabilitation in the home dialysis patient. New Engl J Med 287:478-481, 1972.

Dr. Yium, 2002 Holcombe Blvd, Houston, Texas 77031.

*Citric acid 140 gm, sodium citrate 90 gm qs to 1 liter.

Use of diuretics in nonedematous states

Wadi N. Suki, MD

The major impetus for the development of the newer diuretics and the beginning of the modern era of diuretic therapy has been the need for potent and nontoxic agents to control edema. Investigation of the varied functions of diuretic agents which followed their advent, however, has made it possible to apply these agents to other disease states not manifested by edema. Perhaps the commonest use of modern diuretics has been in the treatment of hypertension, a disease not commonly associated with edema. In hypertension, diuretics exert their salutary effect not only by their capacity to increase the renal excretion of sodium but also by another as yet poorly defined effect not dependent on their natriuretic property. Diuretics also have found their way in to the therapeutic regimens for a number of other disease states. Some are rare; others are common public health problems. This article will center on the effects of the diuretic agents which are used to advantage in the treatment of these various states.

Alkalinization of the Urine

Administration of agents which inhibit the renal enzyme carbonic anhydrase results in immediate increase in the urinary excretion of bicarbonate and alkalinization of the urine. This effect is short lived and lasts until the serum bicarbonate has fallen to a new low level. It can be sustained by the simultaneous administration of sodium bicarbonate or other alkalinizing salts. The increase in urine pH serves two useful purposes: it increases the solubility of alkali-soluble compounds which would otherwise precipitate in the normally acid urine and obstruct the renal tubules or the urinary tract, and it increases the ionization of weak acids in the tubular fluid thereby preventing their back diffusion into the blood stream and their reabsorption by the process of nonionic diffusion. Examples of the first phenomenon are acute uric acid nephropathy and cystinuria. The former is encountered not uncommonly in proliferative hematological disturbances such as the leukemias, particularly when they are treated with cytotoxic agents which result in the increased turnover of purines and the increased production of uric acid. Markedly elevated levels of serum uric acid ensue which may result in renal failure due either to intrarenal obstruction with precipitated uric acid crystals or to the obstruction of the urinary tract by uric acid stones. A carbonic anhydrase inhibitor, such as acetazolamide, in combination with bicarbonate serves to alkalinize the urine and solubilize these precipitates and reestablish urine flow. Cystinuria, on the other hand, is an inherited defect in which excessive amounts of cystine are excreted in the urine in addition to other more soluble amino acids such as ornithine, arginine, and lysine. Cystine is poorly soluble at the acid pH of urine and precipitates in the urinary tract resulting in nephrolithiasis and urolithiasis. This results in turn in obstruction and infection and is responsible for the deterioration of renal function frequently witnessed in this disease. Treatment with acetazolamide and with alkalinizing salts helps solubilize and reduce the size of existing cystine stones and also to prevent their further formation.

Example of the second phenomenon, namely the prevention of back diffusion of weak acids, is the treatment of salicylate intoxication and barbiturate overdose. Since in an acid medium these compounds are poorly ionized, they are more lipid soluble and diffuse back into the blood stream with greater ease as their concentration in

the tubular fluid increases when water is reabsorbed. Alkalinization of the urine results in the formation of the sodium salts of these compounds which are more polar and less diffusible and, therefore, are excreted in the urine in increased amounts. Of the commonly used barbiturates, only phenobarbital becomes ionized to a significant enough degree for this therapy to be clinically worthwhile.[1] Most other short and intermediate acting barbiturates do not become significantly more ionized following urine alkalinization, in which case this therapy should be withheld in order not to complicate the patient's management.

Increased Excretion of Ions Other Than Sodium

In addition to sodium and water, a number of other natural and foreign ions are also reabsorbed in the renal tubules. Under certain circumstances, increased elimination of one or more of these ions may be desirable. Since the reabsorption of these ions in certain nephronal sites is frequently related to the reabsorption of sodium, inhibition of sodium reabsorption in the respective site may result in increased excretion of these ions. An example of a natural substance reabsorbed in the tubule in close relationship to sodium is calcium. Calcium is normally filtered and approximately 75% of the filtered load is reabsorbed in the proximal tubule. Another 20-23% is reabsorbed in the loop of Henle and 2-5% of the filtered calcium is excreted in the urine. Inhibition of sodium reabsorption in the proximal tubule or in the loop of Henle, therefore, may result in a significant increase in the excretion of calcium in the urine. We have utilized this observation to advantage in the treatment of patients with acute symptomatic hypercalcemia.[2] The adminisration of large doses of furosemide, a diuretic which exerts its effect predominantly in the loop of Henle, resulted in the excretion of large amounts of calcium and an almost consistent decrease in the concentration of calcium in the serum (Fig 1).

Diuretics also can increase the excretion of bromide, a foreign ion. A member of the halogen family, bromide is handled by the kidney in a manner similar to that of chloride. The administration of furosemide or ethacrynic acid, which increase the excretion of chloride, would be expected therefore to increase the excretion of bromide as well. This observation has been utilized in the treatment of patients with bromism, and results in a marked increase above baseline in the excretion of bromide ion in the urine (Fig 2).

In both of these uses, however, it must be remembered that the administration of potent diuretics can result in massive losses of salt, water, potassium, and magnesium from the body. These losses must be replaced quantitatively, otherwise serious volume depletion, hypokalemia, or hypomagnesemia may result.

Increased Reabsorption of Components of the Filtrate

It may seem paradoxical at the outset to utilize diuretics for enhancing reabsorption of filtrate. A sound understanding of the normal physiology of the kidney and of the different actions of the various diuretics does indeed permit such a use. To understand this usage it is important to understand two important principles: (1) Diuretics vary in their sites of action, some acting in the proximal tubule, others in the loop of Henle, and yet others in the early distal convoluted tubule,[3] and (2) reabsorption of

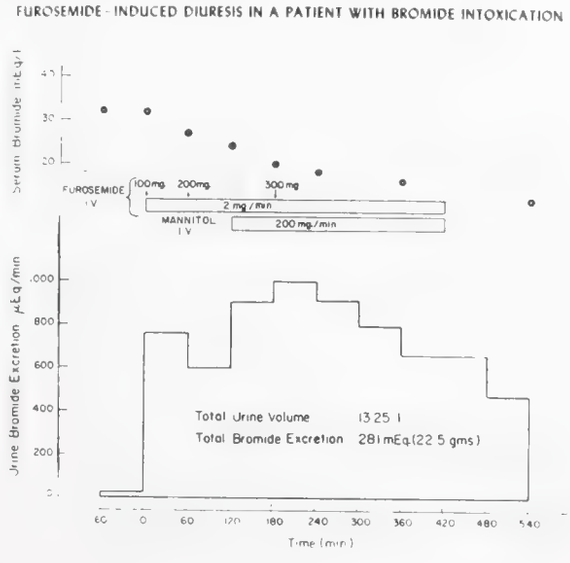
filtrate in the proximal tubule and loop of Henle is enhanced by stimuli to the kidney to retain salt, be they due to salt-retaining diseases or to salt depletion.[4,5] Thus if one were to use a relatively weak diuretic (such as chlorothiazide) which exerts its effect predominantly in the early distal convoluted tubules where primarily sodium chloride is reabsorbed, one can produce a small initial diuresis which may result in mild shrinkage of the extracellular fluid volume provided the salt losses are not replaced from the diet. Shrinkage of the extracellular fluid volume will in turn enhance absorption of the components of the filtrate in the proximal tubule and in the loop of Henle. This principle has been utilized in three major clinical circumstances, the first being diabetes insipidus. It has been shown that the administration of intermediate-acting thiazide diuretics to patients on salt-restricted diets results in a great amelioration of their polyuria. The effect of the diuretics can be sustained by low-salt diet alone or overcome by excessive ingestion of salt.[6] Thus it appears that mild volume depletion enhances sodium and water absorption in the proximal tubule, thereby diminishing the volume of water delivered to the distal tubule which, in the absence of antidiuretic hormone, would largely appear in the urine. The second clinical entity treated with diuretics to decrease excretion of a filtered component is idiopathic hypercalciuria.[7] The use of thiazide diuretics in this disease which constitutes the commonest cause of calcium stones in males, is based on the observation that chlorothiazide and similar drugs do not increase calcium excretion or increase it only slightly following acute administration.[8] During chronic administration, however, they reduce the excretion of calcium.[9] The latter effect is enhanced

Patient	Duration of Diuresis	Serum Calcium I	Serum Calcium P	Total Calcium Excreted
	hr.	mg%		g
H. C.	24	12.3	9.1	0.7
J. R.	6	12.3	9.3	0.9
N. Z.	24	14.0	10.6	1.1
F. B.	32	18.0	14.8	1.3
W. B.	24	15.0	12.0	1.9
S. M.	24	13.6	11.3	2.5
V. F.	47	14.8	11.6	2.7
J. B.	24	18.4	14.6	3.7

I = Initial
P = Post-diuresis

1. Total calcium excreted and the changes in serum calcium following furosemide.

2. Use of furosemide, alone and in combination with mannitol, in a patient with chronic bromism. Note that bromine excretion increased greatly above baseline levels following furosemide administration, and increased further when mannitol was superimposed. The increase in the excretion of bromide was attended by a decline of its concentration in plasma. (Martinez-Maldonado M, Eknoyan G, Suki WN: Diuretics in Non-Edematous States; physiological basis for clinical use. Arch Intern Med 131:797-808, 1973.) (Courtesy of Dr. Martin G. White)



by moderate salt restriction. Trial of therapy in recurrent stone formers with idiopathic hypercalciuria has yielded excellent results in reducing the formation of new stones.[9] The third and final disease entity in which diuretics have been used has been the Fanconi syndrome. Dr. W. F. Falls described to us a case of a young girl with hereditary Fanconi syndrome in whom the use of small doses of thiazide diuretics resulted in a decrease in the excretion of amino acids, glucose, and phosphate.

A sound knowledge of normal renal function and of the pharmacology of diuretic agents permits the use of these drugs in the treatment of disease entities not previously anticipated as indications for their use.

Antagonism of Mineralocorticoids

A special group of diuretics, namely the potassium-sparing diuretics and in specific members of the spironolactone group, have been used in the diagnosis and treatment of some forms of hypertension. Thus spironolactone, which is known to depend on the presence of mineralocorticoids for its action, has been used diagnostically and therapeutically in cases of Conn's syndrome or primary aldosteronism, and also in the rare patient with Biglieri's syndrome or hyperdesoxycorticosteronism. In these conditions this mineralocorticoid antagonist results in correction of the hypokalemia and often correction of the hypertension itself. More recently the use of spironolactone has been described in a special form of hypertension the etiology of which is not yet identified. In approximately 20% of patients with so-called primary hypertension, the level of renin in plasma is found to be low as is the excretion rate of aldosterone. This combination of findings has suggested the presence of an as yet unidentified mineralocorticoid. One compound that has been suggested is 18-hydroxydesoxycorticosterone. Treatment of patients with this combination, unlike patients with normal renin and normal aldosterone, results in weight loss and correction of the hypertension thus lending support to the suspicion that a mineralocorticoid may be operative in the pathogenesis of this disease.[10]

In summary, although diuretics are often thought of as synonymous with treatment of edema, they have been found to be extremely effective in the treatment of several important nonedematous states. The application of diuretics to the treatment of these conditions depends on a sound understanding of the actions of these agents and of the pathophysiology of the various disease states.

References

1. Strickler JC: Forced diuresis in the management of barbiturate intoxication. Clin Pharm Therap 6:693-699, 1965.

2. Suki WN, Yium JJ, VonMinden M, et al: Acute treatment of hypercalcemia with furosemide. New Eng J Med 283:836-840, 1970.

3. Seldin DW, Eknoyan G, Suki WN, et al: Localization of diuretic action from the pattern of water and electrolyte excretion. Ann NY Acad Sci 139:328-343, 1966.

4. Auld RB, Alexander EA, Levinsky NG: Proximal tubular function in dogs with thoracic caval constriction. J Clin Invest 50:2150-2158, 1971.

5. Weiner MW, Weinman EJ, Kashgarian M, et al: Accelerated reabsorption in the proximal tubule produced by volume depletion. 50:1379-1385, 1971.

6. Ramos G, Rivera A, Pena JC, et al: Mechanism of the antidiuretic effect of saluretic drugs. Studies in patients with diabetes insipidus. Clin Pharm Therap 8:557-565, 1967.

7. Suki WN, Eknoyan G, Martinez-Maldonado M: The control of idiopathic hypercalciuria with diuretics and salt restriction, in: Scott R, ed: Current Controversies in Urologic Management. Philadelphia, W B Saunders Co, 1972, pp 345-350.

8. Eknoyan G, Suki WN, Martinez-Maldonado M: Effect of diuretics on urinary excretion of phosphate, calcium and magnesium in thyroparathyroidectomized dogs. J Lab Clin Med 76:257-266, 1970.

9. Yendt ER, Guay GF, Garcia DA: The use of thiazides in the prevention of renal calculi. Canad Med Ass J 102:614-620, 1970.

10. Spark RF, Melby JC: Hypertension and low plasma renin activity: Presumptive evidence for mineralocorticoid excess. Ann Intern Med 75:831-836, 1971.

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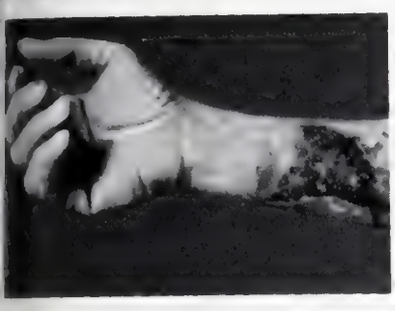

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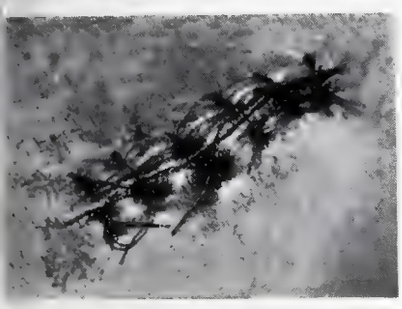

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Precautions: Do periodic serum electrolyte and BUN determinations. Do periodic hematologic studies in cirrhotics with splenomegaly. Antihypertensive effects may be enhanced in postsympathectomy patients. The following may occur: hyperuricemia and gout, reversible nitrogen retention, decreasing alkali reserve with possible metabolic acidosis, hyperglycemia and glycosuria (diabetic insulin requirements may be altered), digitalis intoxication (in hypokalemia). Use cautiously in surgical patients. Concomitant use with antihypertensive agents may result in an additive hypotensive effect.

Adverse Reactions: Muscle cramps, weakness, dizziness, headache, dry mouth; anaphylaxis; rash, urticaria, photosensitivity, purpura, other dermatological conditions; nausea and vomiting (may indicate electrolyte imbalance), diarrhea, constipation, other gastrointestinal disturbances. Rarely, necrotizing vasculitis, paresthesias, icterus, pancreatitis, and xanthopsia have occurred with thiazides alone.

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Electrolyte disturbances resulting from diuretic therapy

Manuel Martinez-Maldonado, MD

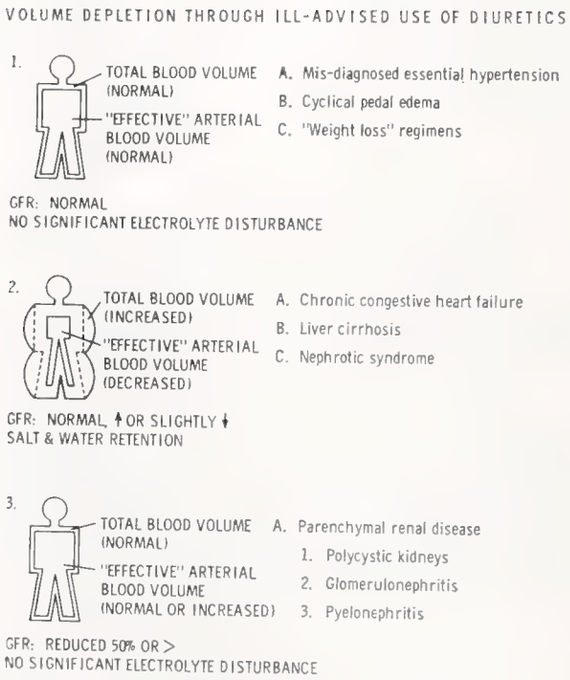
The principal aim of diuretic therapy is to increase the excretion of sodium and water by the kidney. Classically, therefore, diuretics have been utilized in clinical situations associated with retention of sodium and water and leading, in most instances, to edema. Generally speaking, the major effect of diuretics is to inhibit the reabsorption of sodium by the renal tubule which secondarily results in increased water excretion. The potency with which the agent(s) reduces sodium transport, its site of action in the nephron, and the magnitude of the internal stimuli which regulate sodium reabsorption will largely determine the degree of diuresis obtained. The potency of the diuretic to a great extent will influence the therapeutic response *and* the complications of therapy.

Volume Depletion

Probably the commonest complication of diuretic therapy is contraction of the extracellular fluid volume secondary to excess losses of sodium and water. Three general types of patients may be afflicted by volume depletion which may be symptomatic (Fig 1). The first type comprises subjects with normal renal function who are placed on low-salt diet and diuretics when such therapy is ill advised. Some examples of this situation are misdiagnosed essential hypertension, modest cyclical or menstrual edema, and weight reduction programs. The second type comprises patients with a disorder of salt and water metabolism and edema, such as chronic congestive heart failure, liver cirrhosis, or nephrotic syndrome in whom total circulating blood volume is enlarged but so-called "effective" arterial blood volume is contracted and in whom an attempt is made to "dry them out" by low-salt diets and vigorous diuretic therapy. This results in further reduction of effective arterial blood volume since time is not allowed for the compartmentalized fluid to move into the intravascular space or the pathophysiology of the underlying condition does not allow such movement. The final type comprises patients without edema but with reduced renal function in whom it is wrongly judged that there is inability to handle sodium loads or in whom maintenance of relatively large urine flows may be psychologically satisfying for both patient and doctor although it does not contribute therapeutically and actually worsens the patient's condition.

The sequence of events which follows volume depletion, and the major clinical consequences, are illustrated in Fig 2. Reduction in the circulating volume leads to hormonal and hemodynamic alterations. The latter is manifested by reduced cardiac output as a consequence of which arterial blood pressure will fall and, indeed, orthostatic hypotension and its attending symptomatology such as giddiness, dizziness, and syncope may be presenting complaints. Renal blood flow will be diminished; glomerular filtration rate may remain unchanged or, if it is depressed, falls less than renal blood flow so that the filtration fraction (the ratio of glomerular filtration rate:renal plasma flow) will be increased, a situation which leads to enhanced sodium and water reabsorption by the kidney. The hormonal changes that take place, increases in the circulating amounts of antidiuretic hormone and aldosterone, also contribute to the water and sodium retention. The enhancement of reabsorption leads to retention of bicarbonate, which in association with the hypokalemia resulting from continued use of diuretics in the presence of

Supported by Veterans Administration Section Grant 821.103 (122), Project 26-71 and by USPHS Grant AM-15604-01.



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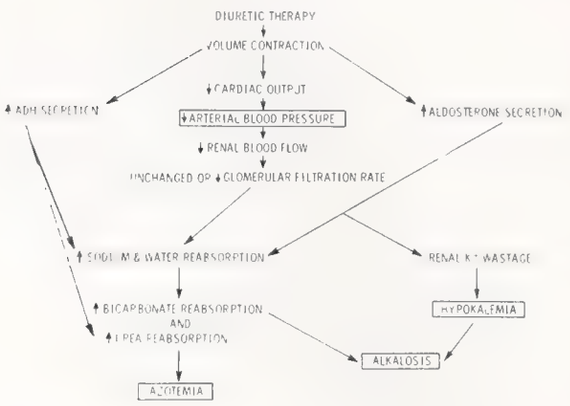

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secondary aldosteronism, will result in alkalosis. Another consequence of increased proximal tubular reabsorption of sodium and water will be urea retention leading to azotemia. Blood urea levels may also be increased by enhanced distal urea reabsorption under the influence of antidiuretic hormone.

All the major side effects of volume contraction, orthostatic hypotension, hypokalemia, alkalosis, and azotemia may be accompanied by morbidity and mortality in normal individuals and increase the risks of catastrophic events in patients with congestive heart failure, cirrhosis of the liver, nephrotic syndrome, and parenchymal renal disease. Obviously, the use of diuretics should be restricted to the patient in whom they are clearly indicated, and full understanding of the possible difficulties which may be encountered in patients who need it is mandatory for appropriate therapeutic goals to be reached. When confronted with patients suffering from diuretic-induced volume contraction and its consequences, therapy should be stopped and measures to correct volume deficits and negative potassium balance taken immediately. During diuretic therapy, whether in the hospital or on an ambulatory basis, frequent followup, prescription of adequate oral potassium supplements, and regular determinations of serum urea, potassium, and bicarbonate concentrations should be done.

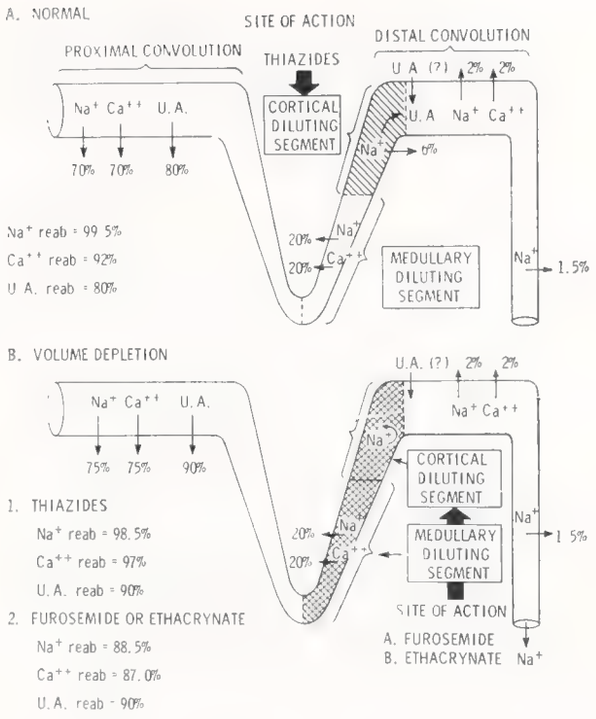
Disorders of Potassium Metabolism

Although, as already mentioned, hypokalemia may be part of the syndrome of volume depletion during sustained diuretic therapy, volume contraction need not be present for hypokalemia to supervene. The commonest clinically used diuretics, acetazolamide (Diamox), thiazides, furose-

mide, and ethacrynic acid all cause renal potassium wastage. This is because all these agents increase delivery of sodium to a site where there is exchange of this ion for K+. Thus, even in the absence of volume contraction and secondary aldosteronism, renal potassium losses may be significant enough to lead to total body potassium depletion and, eventually, the consequences thereof, such as muscular disturbances and renal problems such as polyuria and perhaps infection.

At the other end of the spectrum, the use of so-called potassium-sparing diuretics such as triamterene and spironolactone may be associated with serious hyperkalemia. This may occur whether the drug is given in association with another diuretic or not. Except in very special circumstances we find it unnecessary to rely on potassium-sparing drugs to prevent hypokalemia when administering other diuretics, since oral supplementation is an efficacious and safe way of accomplishing this end. The use of these agents should be particularly avoided in patients with renal insufficiency or patients taking potassium supplements or potassium-containing salt substitutes. On the other hand, both triamterene and spironolactone are such weak diuretics that we find that their use alone is rarely indicated as a therapeutic measure. An exception to this is the treatment of conditions associated with excessive renal potassium wastage such as renal tubular acidosis and Bartter's syndrome.

Hypokalemia should never be allowed to occur, and adequate potassium replacement must be given to all patients, especially those on digitalis therapy. Should they have a major problem in renal potassium excretion and a tendency to hyperkalemia, as is the case in severe renal insufficiency, this should be done with extreme caution, if at all. Hyperkalemia from



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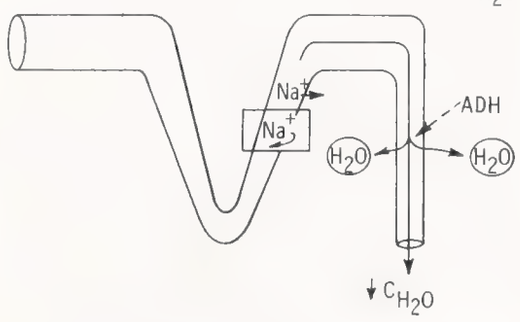
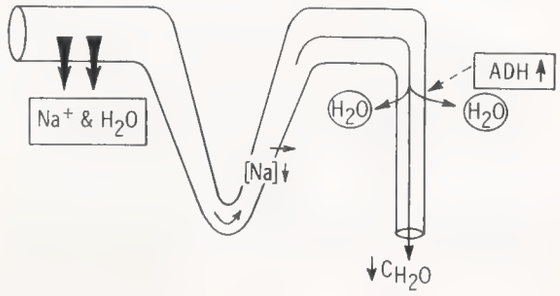
MECHANISMS OF HYPONATREMIA

A. INHIBITION OF FREE WATER CLEARANCE (C_{H_2O})



B. VOLUME DEPLETION AND AVID SALT RETENTION



potassium-sparing agents is also easily foreseen and frequent monitoring of serum K+ is mandatory.

Hyperuricemia and Hypercalcemia

At this point these two not infrequent complications of diuretic therapy should be mentioned because it is possible that they occur principally as a result of volume contraction. Although hyperuricemia may occur with the thiazides, furosemide, and ethacrynic acid, hypercalcemia usually occurs during thiazide therapy only. A possible explanation for this and the mechanism by which volume contraction presumably leads to hyperuricemia and hypercalcemia may be seen in Fig 3. During normal conditions 70% of the filtered sodium and calcium and 80% of the filtered urate are reabsorbed in the proximal convolution. Of the sodium delivered distally, 20% is reabsorbed in the medullary diluting segment, 6% in the cortical diluting segment, 2% in the distal convolution, and 1.5% in the collecting duct so that 99.5% of the filtered Na^+ is reabsorbed. Of the distally delivered Ca^{++}, 20% is reabsorbed in the medullary diluting segment and 2% in the distal convolution so that 92% of the filtered Ca^{++} is reabsorbed. Uric acid appearing in the urine is derived from the filtered unreabsorbed moiety with some added distally by secretion. Thiazides, by inhibiting Na^+ reabsorption in the cortical diluting segment, will increase the excretion of Na^+. Because of loss of Na^+ and water, volume contraction will supervene and lead to changes in the percent of filtered Na^+, Ca^{++}, and uric acid reabsorbed in different portions of the nephron. Of the filtered load of Na^+, 75% will now be reabsorbed proximally, 20% in the medullary diluting segment and 2 and 1.5% in the distal convolution and collecting duct, respectively. Thus, 98.5% of the filtered load will be reabsorbed. The excreted 1.5% ensures the maintenance of a state of volume contraction. Calcium reabsorption, like the reabsorption of sodium, may be unchanged in the ascending limb of Henle's loop, but rises by 5% in the proximal convolution increasing total reabsorption from 92 to 97% of the filtered load. Uric acid reabsorption has been enhanced to 90% of the filtered load. During furosemide and ethacrynic acid diuresis, although the reabsorption of Na^+, Ca^{++}, and uric acid in the proximal convolution rises, the inhibition of the entire ascending limb by the two agents increases both Na^+ and Ca^{++} excretion reducing the percent of the total filtered load which is reabsorbed but without increasing the excretion of urate. Thus, volume depletion with the thiazides, furosemide or ethacrynic acid, will lead to hyperuricemia, but only thiazides will lead to calcium retention. This mechanism forms the basis for the treatment of idiopathic hypercalciuria discussed elsewhere in this symposium. Obviously, when solely the result of volume contraction, hyperuricemia and hypercalcemia will abate with correction of extracellular fluid depletion.

Hyponatremia

The last major complication of diuretic therapy I would like to discuss is hyponatremia (Fig 4). From the previous discussion it is clear that the commonly used diuretics interfere with sodium reabsorption principally in the ascending limb of Henle's loop and, thus, interfere with normal urine dilution. Therefore, diuretics will prevent the excretion of a maximally dilute urine. This inability to excrete water loads is

worsened when volume depletion coexists because of the enhanced ADH secretion present. Water retention will result, which in the presence of isotonic or hypertonic losses of sodium in the urine will lead to hyponatremia secondary to dilution.

Another consequence of volume depletion is that the enhanced proximal reabsorption which results will decrease sodium delivery to the ascending limb. Diminution of sodium at the diluting site will lead to reduced free water generation and, consequently, contribute significantly to the hyponatremia.

Hyponatremia which is the result of volume contraction will abate upon administration of sufficient salt to replenish the volume deficits. If necessary, therapy should be stopped. When hyponatremia is the result of defects in water excretion because of avid sodium retention and excess antidiuretic hormone secretion, fluid restriction is the only effective measure, but often is resisted by the patient and its beneficial effects take a long time to be manifest. No advance is made by attempting to correct hyponatremia by sodium administration in this case, since this only increases the edema that is present.

For completion it should be mentioned that thiazide diuretics (possibly furosemide and ethacrynic acid as well) may induce hyponatremia in nonedematous patients with clinically normal hydration and creatinine clearances. In these cases potassium depletion and excess release of antidiuretic hormone appear to be responsible for the hyponatremia. Deficiency of $K+$ causes entry of sodium into cells in an attempt to restore osmotic equilibrium between the intracellular and extracellular fluid compartment. This leads to further extracellular fluid volume contraction and enhances the release of vasopressin with resultant water retention and hyponatremia. The syndrome disappears upon increasing $K+$ intake or discontinuation of the diuretic.

References

1. Berliner RW: Use of modern diuretics. Circulation 33:802-809, 1966.
2. Seldin DW, ed: The physiology of diuretic agents. Ann NY Acad Sci 139:273-539, 1966.
3. Fichman MP, Vorherr H, Kleeman CR, et al: Diuretic-induced hyponatremia. Ann Intern Med 75:853-863, 1971.
4. Suki WN, Eknoyan G, Martinez-Maldonado M: Tubular sites and mechanisms of diuretic action. Ann Rev Pharmacol 13:91-106, 1973.

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Drug therapy in renal disease - antibiotics

H. E. Sarles, MD

A higher incidence of infection is found in patients in whom renal function is impaired than is found in normal individuals. As impairment becomes more severe, defects in both cellular and humoral immunity develop,[1,2] and patients who have chronic renal disease frequently require antibiotic therapy. Dosage and selection of antibiotic agents deserve careful consideration in the presence of diminished renal function; the injudicious use of these agents has produced an alarming incidence of acute renal failure in patients with underlying renal disease. However, patients with renal insufficiency need not be denied treatment with appropriate antibiotics so long as dosages commensurate with the degree of renal function impairment are provided.

Discussion and Comments

Before administering potentially nephrotoxic antibiotics, it is advisable to measure

1. Recommended doses of commonly used antimicrobial agents for patients with diminished renal function.

	Normal GFR*	GFR 30 ml/min	GFR 10 ml/min or less	Complications with Excessive Dosage
Penicillin G	2-20 million units/day	2-6 million units/day	1-6 million units/day	convulsions, hyperkalemia†
Ampicillin	2-3 gm/day	2-3 gm/day	0.5-1 gm/day	fever, ↑SGOT, convulsions
Methicillin	4-8 gm/day	2-4 gm/day	1 gm q 8-12 hr	occasional hematuria and proteinuria
Carbenicillin	12-24 gm iv/day	8-12 gm. iv/day	2 gm iv q 8-12 hr	bleeding diasthesis may develop
Cephalothin	1 gm q 4 hr	1 gm q 6-8 hr	0.5 to 1 gm q 24 hr	convulsions may appear, especially with diminished renal function
Erythromycin	0.5-2 gm q 12 hr	0.5-2 gm q 12 hr	0.5-2 gm q 12 hr	monitor for liver toxicity
Tetracycline	1-2 gm/day	0.5-1 gm/day	Avoid	with diminished renal function, may precipitate uremia or lead to liver function impairment
Gentamicin	2-4.5 mg/kg/day (divided doses)	0.5-1 mg/kg/day (divided doses)	0.5 mg/kg every other day	nephrotoxicity and ototoxicity
Kanamycin	0.5 gm q 8 hr for 2 days, then 0.5 gm q 12 hr	0.5 gm q 24 hr	0.5 gm q 48-72 hr	nephrotoxicity, ototoxicity and neuromuscular blockade
Polymyxin B	0.8 mg/kg q 8 hr	0.4 mg/kg q 8 hr	0.5 mg/kg q 48-72 hr	nephrotoxicity and neuromuscular blockade
Colistimethate	1.0 mg/kg q 6 hr	1.0 mg/kg q 12 hr	1.0 mg/kg 48-72 hr	nephrotoxicity and neuromuscular blockade
Sulfisoxazole (Gantrisin)	2-3 gm/24 hr	1 gm/12-24 hr‡	Avoid	monitor blood levels to avoid toxicity (drug fever, serum sickness, blood dyscrasias)

*Glomerular filtration rate (GFR) determined by creatinine clearance
†Potassium penicillin G contains 1.69 mEq K+/million units
‡Monitor blood level

the patient's renal function, making appropriate reductions in dosage as necessary. Fig 1 includes a list of commonly used antibiotics. The recommended doses are designed to avoid nephrotoxicity while providing effective antimicrobial blood levels. In life-threatening situations, more intensive drug therapy may be required. On the other hand, even when employing the recommended dosages, it is wise to carefully monitor renal function, and with certain drugs, liver hemopoeitic function, to detect impairment so that further dosage reduction can be made before serious clinical consequences occur. The dosage schedule recommended in Fig 1 is derived both from our own experience and other sources.[3-5]

Summary and Conclusions

Patients with varying degrees of renal insufficiency are more susceptible to infectious diseases. While renal impairment makes these patients more susceptible to the toxic side effects of many of the antimicrobial agents, proper therapy need not be withheld, as judicious use of these drugs can prevent further renal functional compromise. Recommended dosages of the more commonly used antimicrobial agents are outlined. These recommendations are designed to avoid nephrotoxicity. However, in life-threatening situations, more intensive drug therapy may be required.

References

1. Lawrence HS: Uremia: Nature's immunosuppressive device. Ann Intern Med 62:166, 1965.

2. Sarles HE, Lindley JD: Unpublished data.

3. Kunin C: A guide to the use of antibiotics in patients with renal disease. A table of recommended doses and factors governing serum levels. Ann Intern Med 67:151-158, 1967.

4. Stoff RB, Ogg CS, Cameron JS, et al: Why the persistently high mortality in acute renal failure? Lancet 2:75-78, 1972.

5. Sanford JP: Guide to antimicrobial therapy, 1971. Syracuse, NY, Bristol Laboratories, 1971.

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Animal studies indicate that tetracyclines cross the placenta and can be toxic to the developing fetus (often related to retardation of skeletal development). Embryotoxicity has also been noted in animals treated early in pregnancy.

Usage in newborns, infants, and children. (See above **WARNINGS** about use during tooth development.)

All tetracyclines form a stable calcium complex in any bone-forming tissue. A decrease in fibula growth rate observed in prematures given oral tetracycline 25 mg/kg every 6 hours was reversible when drug was discontinued.

Tetracyclines are present in milk of lactating women taking tetracyclines.

To avoid excess systemic accumulation and liver toxicity in patients with impaired renal function, reduce usual total dosage and, if therapy is prolonged, consider serum level determinations of drug. The anti-anabolic action of tetracyclines may increase BUN. While not a problem in normal renal function, in patients with significantly impaired function, higher tetracycline serum levels may lead to azotemia, hyperphosphatemia, and acidosis.

Photosensitivity manifested by exaggerated sunburn reaction has occurred with tetracyclines. Patients apt to be exposed to direct sunlight or ultraviolet light should be so advised, and treatment should be discontinued at first evidence of skin erythema.

PRECAUTIONS: If superinfection occurs due to overgrowth of nonsusceptible organisms, including fungi, discontinue antibiotic and start appropriate therapy.

In venereal disease, when coexistent syphilis is suspected, perform darkfield examination before therapy, and serologically test for syphilis monthly for at least four months.

Tetracyclines have been shown to depress plasma prothrombin activity; patients on anticoagulant therapy may require downward adjustment of their anticoagulant dosage.

In long-term therapy, perform periodic organ system evaluations (including blood, renal, hepatic).

Treat all Group A beta-hemolytic streptococcal infections for at least 10 days.

Since bacteriostatic drugs may interfere with the bactericidal action of penicillin, avoid giving tetracycline with penicillin.

ADVERSE REACTIONS: Gastrointestinal (oral and parenteral forms): anorexia, nausea, vomiting, diarrhea, glossitis, dysphagia, enterocolitis, inflammatory lesions (with monilial overgrowth) in the anogenital region.

Skin: maculopapular and erythematous rashes; exfoliative dermatitis (uncommon). Photosensitivity is discussed above (See **WARNINGS**).

Renal toxicity: rise in BUN, apparently dose related (See **WARNINGS**).

Hypersensitivity: urticaria, angioneurotic edema, anaphylaxis, anaphylactoid purpura, pericarditis, exacerbation of systemic lupus erythematosus.

Bulging fontanels, reported in young infants after full therapeutic dosage, have disappeared rapidly when drug was discontinued.

Blood: hemolytic anemia, thrombocytopenia, neutropenia, eosinophilia.

Over prolonged periods, tetracyclines have been reported to produce brown-black microscopic discoloration of thyroid glands; no abnormalities of thyroid function studies are known to occur.

USUAL DOSAGE: Adults — 600 mg daily, divided into two or four equally spaced doses. More severe infections: an initial dose of 300 mg followed by 150 mg every six hours or 300 mg every 12 hours. Gonorrhea: In uncomplicated gonorrhea, when penicillin is contraindicated, 'Rondomycin' (methacycline HCl) may be used for treating both males and females in the following clinical dosage schedule: 900 mg initially, followed by 300 mg q.i.d. for a total of 5.4 grams.

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Children — 3 to 6 mg/lb/day divided into two to four equally spaced doses.

Therapy should be continued for at least 24-48 hours after symptoms and fever have subsided.

Concomitant therapy: Antacids containing aluminum, calcium or magnesium impair absorption and are contraindicated. Food and some dairy products also interfere. Give drug one hour before or two hours after meals. Pediatric oral dosage forms should not be given with milk formulas and should be given at least one hour prior to feeding.

In patients with renal impairment (see **WARNINGS**), total dosage should be decreased by reducing recommended individual doses or by extending time intervals between doses.

In streptococcal infections, a therapeutic dose should be given for at least 10 days.

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Drug therapy and renal disease - cardiac drugs

Robert J. Luchi, MD

Both acute and chronic renal disease frequently are complicated by congestive heart failure or cardiac arrhythmias. Often, treatment with cardiac glycosides is indicated. Cardiac glycosides are either excreted unchanged in the urine or metabolized and then excreted in bile or urine as inactive compounds or compounds with minor biological activity. The important role that the kidney plays in excreting active metabolites of cardiac glycosides requires that special attention be given to maintenance doses of these drugs when renal function is compromised. The incidence of digitalis toxicity has been estimated to be between 10 and 24% of all hospitalized patients taking digitalis. Indeed, digitalis toxicity is often the result of the patient receiving too large a maintenance dose in the presence of renal impairment. Therefore, it is important to look at the body kinetics of digitalis glycosides in the presence of renal failure.

The two most commonly used cardiac glycosides are digoxin and digitoxin. Digoxin differs from digitoxin only in having an extra hydroxy group at the C-12 position. The extra hydroxy group renders digoxin more water-soluble. There is far less binding to serum albumin, and therefore digoxin has the shorter biological half-life—approximately one and one-half days. The drug is metabolized relatively little in the body. Most is excreted unchanged in the urine. Therefore, the amount of biologically active drug present in the body will vary importantly with alterations in renal function. The less water-soluble digitoxin binds protein to a greater degree, is metabolized in the liver in significant amounts, and has a much longer half-life in the body, approximately five and one-half days. Reduction in renal function influences the body concentration of digitoxin, but to a lesser degree than digoxin.

The physician should think of digitalization in terms of two steps. If the patient is to be digitalized acutely, the first step is loading the body with a sufficient amount of digitalis to produce a desired concentration in the body, and, by implication, the heart. There are two factors that are the chief determinants of appropriate body concentration of digitalis. The first is lean body weight. The second factor, the concentration of serum potassium, is a major determinant of the amount of digitalis which will be bound to heart muscle. The lower the potassium concentration, the more digitalis will be taken up by the myocardium. If serum potassium is normal, the amount of digoxin given parenterally that will produce therapeutic benefit without toxic effects varies between 8 and 10 μg/kg body weight. A good working figure to remember is 10 μg digoxin/kg body weight. This is roughly equivalent to 0.5 mg/45.4 kg body weight. Thus, for a 70 kg man (154 lb), the total intravenous loading dose of digoxin would be 750 μg, or 0.75 mg. The lower dose schedule (8 μg/kg body weight) would give a loading dose of 0.56 mg, whereas the higher loading dose (13 μg/kg body weight) would give a loading dose of 0.96 mg. The more commonly used figure for loading dose for digoxin, ie 1.5 mg, probably is too much for a man weighing 70 kg. The loading dose should be divided into three more or less equal amounts and given at 0 time, 6 hours later, and 12 hours later. Before administration of the second and third doses, the patient should be examined for evidences of digitalis toxicity. Some patients are exquisitely sensitive to the drug, and even small amounts produce symptoms or signs of digitalis toxicity. If serum potassium concentration is low, smaller loading doses

should be given. Because absorption from the gastrointestinal tract is incomplete, oral doses of digoxin should be 1.2 times those listed above.

The second step in administering digitalis is to maintain an appropriate body (and myocardial) concentration of digoxin by replacing daily digoxin losses. Calculation of the maintenance dose for digoxin is dependent only indirectly on body weight and serum potassium concentration in that maintenance doses are calculated as a percent of the loading dose. Renal function is a major determinant of the maintenance dose of digoxin. When renal function is normal, 60% of the daily loss of digoxin occurs through the kidney. As renal function deteriorates, progressively smaller amounts of digoxin are excreted through the kidneys. Although extrarenal metabolism of digoxin increases a little, it is never sufficient to compensate for the decrease in renal function. Thus, it is crucial to adjust downward the maintenance dose of digoxin as renal function deteriorates. The daily maintenance dose, expressed as a *percent* of the loading dose of digoxin, can be derived from the formula proposed by Jelliffe:[1] Maintenance dose (% loading dose) = 14 + (creatinine clearance ÷ 5). When renal function is normal, as indicated by a creatinine clearance of 100 ml/minute, the maintenance dose should be 34% of the *loading* dose. On the other hand, if renal function is zero, one need only to replace nonurinary losses. Nonurinary losses approximate 14% of the *loading* dose. If creatinine clearance is 20 ml/minute, the maintenance dose (% loading dose) is 14 + (20 ÷ 5) = 18%.

Serum digoxin concentrations can be a useful adjunct in managing patients with cardiac disease and renal impairment. Serum digoxin concentrations under 2 ng/ml are generally not associated with signs of toxicity. On the other hand, serum digoxin concentrations in excess of 2 ng/ml are frequently associated with toxicity. Serial determinations of digoxin showing a rise of serum concentrations to 2 mg/ml or beyond should be a signal to the physician to withdraw digitalis temporarily and reduce subsequent maintenance doses.

Despite a close similarity in chemical structure, the pharmacologic properties of digitoxin are different from those of digoxin. Urinary losses account for approximately 30% of daily losses from the body, whereas nonurinary losses account for 60%. It is not certain how the remaining 10% is lost from the body. The patient's body weight and serum potassium concentration will also be major determinates of the loading dose for digitoxin just as they were with digoxin. Most patients will show a therapeutic response without toxicity on a dose of digoxin amounting to 17 μg/kg body weight (equivalent to 0.8 mg/100 lb). The dosage range is 10 to 20 μg/kg body weight. Again, if serum potassium concentration is low, a smaller rather than a larger amount per unit body weight should be administered. More digitoxin is required per unit body weight relative to digoxin because of the greater binding to protein of digitoxin. The loading dose should be divided into three approximately equal portions and administered at 0 time, 6 hours later, and 12 hours later. Thus the entire dose is given in 12 hours. The patient should be watched for signs of toxicity. The oral and parenteral doses of digitoxin are the same.

The maintenance dose of digitoxin is calculated in much the same way as for digoxin. Maintenance doses take into account renal function and are determined as a percent of the initial loading dose. The formula for digitoxin is: Maintenance dose (% loading dose) = 7.7 ÷ (.035 x crea-

tinine clearance). Thus, if creatinine clearance is 100 ml, approximately 11% of the loading dose will be required as a daily maintenance dose. However, when creatinine clearance is 0, approximately 8% of the loading dose will constitute the maintenance dose. It can be seen clearly that renal functional impairment has a relatively lesser effect on the maintenance dose of digitoxin than for digoxin. This is not unexpected, considering the mechanisms of excretion of these two cardiac glycosides. Because digitoxin is less dependent on adequate renal function for excretion, it may be the cardiac glycoside of choice in treating a patient with poor renal function. The difference between maintenance doses in patients with normal renal function and zero renal function is relatively small, thus allowing for a somewhat wider margin of safety. It should be stressed, however, when administering digitoxin, as with digoxin, that the maintenance dose of digitoxin must be reduced as renal function is impaired.

Summary

Although digoxin and digitoxin have similar structural formulas, their pharmacology is distinctly different. Digoxin is more water-soluble, binds less to protein, and is excreted to a greater degree by the kidney.

Digitoxin is less water-soluble, binds more to protein, and is inactivated by the liver as well as excreted by the kidney. The determinants of the loading dose of either glucoside are body weight and serum potassium concentration. The average patient will show a therapeutic response without toxicity on a dose of 10 μg/kg of digoxin and 17 μg/kg of digitoxin. Idiosyncratic reactions, however, do occur. Some patients are exquisitely sensitive to cardiac glycosides. Therefore, the loading dose should be divided up into three approximately equal amounts given at six-hour intervals. The patient should be carefully examined for signs of toxicity before the next dose is administered.

Maintenance doses of digoxin and digitoxin can be calculated from formulas or graphs relating body losses to renal function. Maintenance doses are calculated in terms of percentage of the initial loading dose. Dose adjustments may be more easily made with elixir of digoxin or digitoxin rather than tablets. Because digitoxin is relatively less dependent on renal excretion than digoxin, digitoxin may be the preferable glycoside to use when renal functional impairment exists.

Reference

1. Jelliffe RW: Factors to consider in planning digoxin therapy. J Chron Dis 24:407, 1971.

Dr. Luchi, Veterans Administration Hospital, 2002 Holcombe Blvd, Houston, Texas 77031.

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Physician for a Day program earns gratitude of lawmakers

They said it couldn't be done.

Set up a physician's office in the state Capitol. Find an agency which will donate supplies.Staff it daily from February through May with a nurse whose services must be donated, and a different physician every day who will leave his practice and work for free. Expect that physician to remain completely apolitical even though surrounded by men and women who are making decisions which may affect his life's work. Persuade legislators that the first aid station is just that—and not a subtle attempt to influence their votes.

Impossible?

No—the Texas Medical Association and the Texas Academy of Family Physicians have done just that for the past two regular sessions of the Texas Legislature with the Physician for a Day program. With the assistance of Nurse Vera Taylor, on loan from the Department of Public Welfare, and TAFP members from all over the state, the Texas medical profession has provided a working example of one of medicine's highest ideals—unselfish service to others.

Some 80 physicians from throughout the state served as physician for a day during the recently-completed 63rd session .The Texas State Department of Health supplied equipment for the small dispensary on the ground floor of the Capitol, and by the time the session was a few weeks old, the first aid station was doing a land office business.

Physicians served without pay, and under a pledge not to "lobby." Not only did they treat the usual upper respiratory infections, minor injuries, and aches and pains of legislators, Capitol staff and visitors, the Physician for a Day program proved its worth by being available during some real emergencies—and perhaps even helped to save some lives.

One day during the session, one legislator was helping another "jump" the battery on his car. The men reversed the jump connections. Result: the battery exploded in the face of one of the men, splashing acid into his right eye, and causing a deep cut beneath it.

Within four minutes, the injured lawmaker was in the hands of Nurse Taylor and the physician who was serving that day. Prompt rendering of first aid prevented serious eye damage.

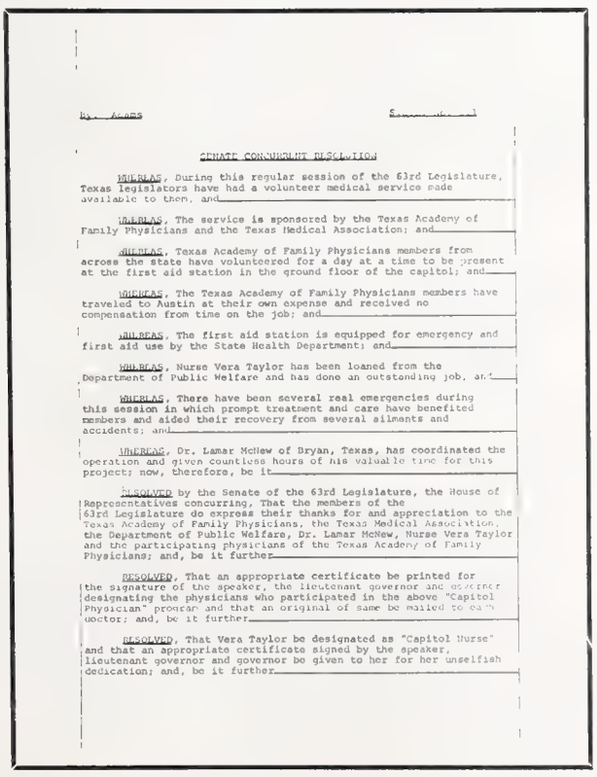
In another incident, a lawmaker from a North Central Texas town developed a painful kidney stone which he could not pass. He was referred to a local urologist through the Physician for a Day program. The urologist determined that surgery was necessary and, by coincidence, the volunteer Capitol physician on the day surgery was scheduled happened to be the legislator's own personal doctor. He was able to be with his patient during and after surgery and to provide followup care.

Legislators work overtime during a session —hypertension is a common problem, as are various heart ailments. On two occasions at least, volunteer physicians were on hand when legislators suffered coronaries. After being given on-the-spot treatment, both legislators were admitted to an Austin hospital, and the services of a local cardiologist were obtained for them.

Legislators aren't the only people who become ill, however, and the physician for a day and Nurse Taylor often treated Capitol staff and visitors. The primary purpose of the program was to render immediate aid in case of need, no matter who became ill. Followup and continuing care was given by personal physicians and local doctors.

Now that the program has operated for two sessions in a row, legislators and physi-

Representative Jim Nugent, Kerrville, was the House sponsor of a joint resolution honoring participants in the TMA-TAFP Physician for a Day Program. A copy of the resolution is reproduced below.



By: Adams S.C.R. No. 111

SENATE CONCURRENT RESOLUTION

WHEREAS, During this regular session of the 63rd Legislature, Texas legislators have had a volunteer medical service made available to them, and

WHEREAS, The service is sponsored by the Texas Academy of Family Physicians and the Texas Medical Association; and

WHEREAS, Texas Academy of Family Physicians members from across the state have volunteered for a day at a time to be present at the first aid station in the ground floor of the capitol; and

WHEREAS, The Texas Academy of Family Physicians members have traveled to Austin at their own expense and received no compensation from time on the job; and

WHEREAS, The first aid station is equipped for emergency and first aid use by the State Health Department; and

WHEREAS, Nurse Vera Taylor has been loaned from the Department of Public Welfare and has done an outstanding job, and

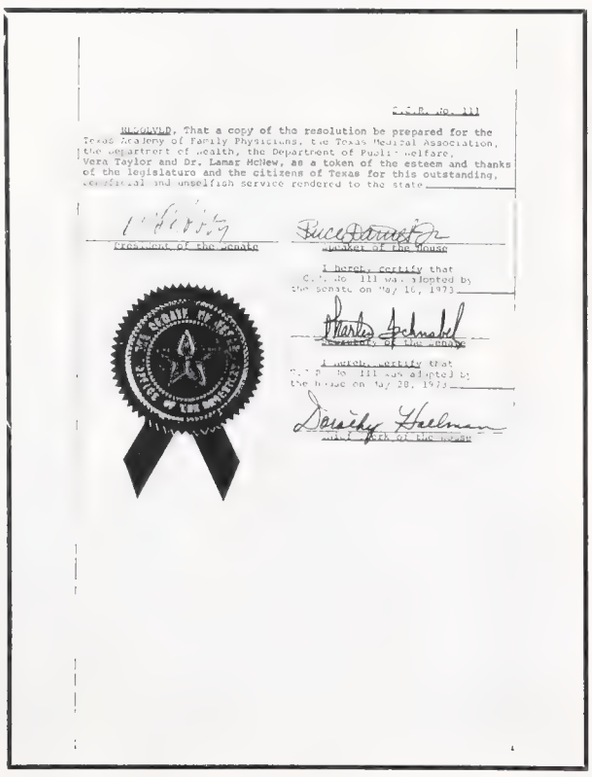
WHEREAS, There have been several real emergencies during this session in which prompt treatment and care have benefited members and aided their recovery from several ailments and accidents; and

WHEREAS, Dr. Lamar McNew of Bryan, Texas, has coordinated the operation and given countless hours of his valuable time for this project; now, therefore, be it

RESOLVED by the Senate of the 63rd Legislature, the House of Representatives concurring, That the members of the 63rd Legislature do express their thanks for and appreciation to the Texas Academy of Family Physicians, the Texas Medical Association, the Department of Public Welfare, Dr. Lamar McNew, Nurse Vera Taylor and the participating physicians of the Texas Academy of Family Physicians; and, be it further

RESOLVED, That an appropriate certificate be printed for the signature of the speaker, the lieutenant governor and governor designating the physicians who participated in the above "Capitol Physician" program and that an original of same be mailed to each doctor; and, be it further

RESOLVED, That Vera Taylor be designated as "Capitol Nurse" and that an appropriate certificate signed by the speaker, lieutenant governor and governor be given to her for her unselfish dedication; and, be it further



S.C.R. No. 111

RESOLVED, That a copy of the resolution be prepared for the Texas Academy of Family Physicians, the Texas Medical Association, the Department of Health, the Department of Public Welfare, Vera Taylor and Dr. Lamar McNew, as a token of the esteem and thanks of the legislature and the citizens of Texas for this outstanding, beneficial and unselfish service rendered to the state

President of the Senate

Speaker of the House

I hereby certify that S.C.R. No. 111 was adopted by the Senate on May 16, 1973

Secretary of the Senate

I hereby certify that S.C.R. No. 111 was adopted by the House on May 28, 1973

Chief Clerk of the House

cians alike call it a resounding success. According to Dr. Lamar McNew of Bryan, TAFP coordinator for the program, both the medical profession and the lawmakers were a little wary of the undertaking at first. However, after the 62nd session was completed, those misgivings seemed to disappear.

"The first year," says Dr. McNew, "I had to call people to serve myself. This year, I've turned recruiting almost totally over to my office staff." Many of the physicians who served during the 63rd session were "repeaters." "I've been very pleased with the way these guys are willing to go knowing they may get nothing out of it," declared Dr. McNew. "I'm just very proud."

Although physicians who served avoided all political overtones, the program itself has probably proved as effective as anything in helping medicine's case at the Capitol. "I think it sure has helped to change the image of medicine," said Nurse Taylor.

So do the legislators apparently. During the closing moments of the 63rd session, a Senate Concurrent Resolution was passed expressing the gratitude of the lawmakers to the medical profession, and every participating physician will receive a certificate designating him "Capitol Physician." Thanks were expressed to TAFP, TMA, the Department of Public Welfare, Dr. McNew, and Nurse Taylor. In addition, she was designated "Capitol Nurse." Some senators and representatives even stopped by the first aid station when they had no complaints just to express their thanks to the doctor. And one senator, speaking of Nurse Taylor, said, "We don't like her—we *love* her!"

Will the program continue during the upcoming Constitutional Convention next year? "If we're asked," says Dr. McNew, "we'll go."

So, even in spite of minor problems such as lack of space and occasional overutilization, the Physician for a Day program has answered those people who said it couldn't be done—it can!

Senator Don Adams of Jasper was the Senate author of the Physician for a Day resolution.

The changing face of Texas Medicine

Charges that the American Medical Association is an anachronistic organization which does not represent the views of its members are by no means new. In the July 1923, issue of the *Texas State Journal of Medicine* (now *Texas Medicine*), there was published a review of the book, *The Eighteenth Amendment and the Part Played by Organized Medicine*. The reviewer quoted the following section from the book:

"We found a giant organization (the A.M.A.) occupying the center of the stage. Torn by factions within, pressed on all sides by virile foes without, it was turning and twisting, grasping at any weapon which would preserve its life even a short time longer. It was medievalism struggling against the advance of civilization . . . We found the reason why disease has been able to flourish in spite of all that science has accomplished for its control. We found men of international reputation in the world of medicine prostituting their profession, and forgetting their honor, to maintain an organization which has long outlived its usefulness and which has no place in a civilized community in a modern age."

The author of the above lines was attacking organized medicine for what he thought was an attempt to block the repeal of the Eighteenth Amendment—more commonly known as Prohibition. However, another note in the same issue of the *Journal* showed that not all segments of organized medicine were for strict prohibition. In an account of county medical society activities, it was reported that the Grayson County Medical Society had adopted a resolution pledging the members of its society "to efforts modifying the Eighteenth Amendment to the Constitution of the United States, if not its entire removal."

Other articles in the July issue were devoted to public health concerns. In a plea for better reporting of vital statistics, Dr. Wilson T. Davidson of Dallas noted, "What would the people say if we told them that upon the first of next June five hundred small children in this State would be picked out from various sections and executed, and five thousand of them condemned to a period of sickness lasting from ten days to two weeks, and that some of them would be maimed for life? Would not the entire State rise up in arms? If they were told that this wholesale execution could be prevented, would they not demand that proper precautions be taken?"

Other articles dealt with the eradication of malaria from Texas, the epidemiology and prevention of dengue, Texas drinking water supplies, and stock poisoning from plants.

In the article on malaria, Dr. Albert Woldert of Tyler reported that in a survey he made in one East Texas county, he found that 37% of the people living in rural districts of the county had malaria every year. He also cited another survey which showed that in one of the suburbs of Dallas, over 25% of sickness was due to malaria.

Another feature of that July issue was four pages of pictures of "Our Friends in the Legislature, 'All But a Few of Them.' " One of those friends pictured was Rep. Wright Patman of Linden, who is presently serving in the US House of Representatives.

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Indications: Based on a review of PREMARIN Tablets by the National Academy of Sciences—National Research Council and/or other information, FDA has classified the indications for use as follows:
Effective: As replacement therapy for naturally occurring or surgically induced estrogen deficiency states associated with: the climacteric, including the menopausal syndrome and postmenopause; senile vaginitis and kraurosis vulvae, with or without pruritus.
"Probably" effective: For estrogen deficiency-induced osteoporosis, and only when used in conjunction with other important therapeutic measures such as diet, calcium, physiotherapy, and good general health-promoting measures. Final classification of this indication requires further investigation.

Contraindications: Short acting estrogens are contraindicated in patients with (1) markedly impaired liver function; (2) known or suspected carcinoma of the breast, except those cases of progressing disease not amenable to surgery or irradiation occurring in women who are at least 5 years postmenopausal; (3) known or suspected estrogen-dependent neoplasia, such as carcinoma of the endometrium; (4) thromboembolic disorders, thrombophlebitis, cerebral embolism, or in patients with a past history of these conditions; (5) undiagnosed abnormal genital bleeding.
Warnings: Estrogen therapy should not be given to women with recurrent chronic mastitis or abnormal mammograms except, if in the opinion of the physician, it is warranted despite the possibility of aggravation of the mastitis or stimulation of undiagnosed estrogen-dependent neoplasia.
The physician should be alert to the earliest manifestations of thrombotic disorders (thrombophlebitis, retinal thrombosis, cerebral embolism and pulmonary embolism). If these occur or are suspected, estrogen therapy should be discontinued immediately.
Estrogens may be excreted in the mother's milk and an estrogenic effect upon the infant has been described. The long range effect on the nursing infant cannot be determined at this time.
Hypercalcemia may occur in as many as 15 percent of breast cancer patients with metastases, and this usually indicates progression of bone metastases. This occurrence depends neither on dose nor on immobilization. In the presence of progression of the cancer or hypercalcemia, estrogen administration should be stopped.
A statistically significant association has been reported between maternal ingestion of diethylstilbestrol during pregnancy and the occurrence of vaginal carcinoma in the offspring. This occurred with the use of diethylstilbestrol for the treatment of threatened abortion or high risk pregnancies. Whether or not such an association is applicable to all estrogens is not known at this time. In view of this finding, however, the use of any estrogen in pregnancy is not recommended.
Failure to control abnormal uterine bleeding or unexpected recurrence is an indication for curettage.
Precautions: As with all short acting estrogens, the following precautions should be observed:
A complete pretreatment physical examination should be performed with special reference to pelvic and breast examinations.
To avoid prolonged stimulation of the endometrium and breasts in climacteric or hypogonadal women, estrogens should be administered cyclically (3 week regimen with 1 week rest period—withdrawal bleeding may occur during rest period).
Because of individual variation in endogenous estrogen production, relative overdosage may occur which could cause undesirable effects such as abnormal or excessive uterine bleeding, mastodynia and edema.
Because of salt and water retention associated with estrogenic anabolic activity, estrogens should be used with caution in patients with epilepsy, migraine, asthma, cardiac, or renal disease.
If unexplained or excessive vaginal bleeding should occur, reexamination should be made for organic pathology.
Pre-existing uterine fibromyomata may increase in size while using estrogens; therefore, patients should be examined at regular intervals while receiving estrogenic therapy.
The pathologist should be advised of estrogen therapy when relevant specimens are submitted.
Because of their effects on epiphyseal closure, estrogens should be used judiciously in young patients in whom bone growth is incomplete.
Prolonged high dosages of estrogens will inhibit anterior pituitary functions. This should be borne in mind when treating patients in whom fertility is desired.
The age of the patient constitutes no absolute limiting factor, although treatment with estrogens may mask the onset of the climacteric.
Certain liver and endocrine function tests may be affected by exogenous estrogen administration. If test results are abnormal in a patient taking estrogen, they should be repeated after estrogen has been withdrawn for one cycle.
Adverse Reactions: The following adverse reactions have been reported associated with short acting estrogen administration:
nausea, vomiting, anorexia
gastrointestinal symptoms such as abdominal cramps and bloating
breakthrough bleeding, spotting, unusually heavy withdrawal bleeding
(See DOSAGE AND ADMINISTRATION)
breast tenderness and enlargement
reactivation of endometriosis
possible diminution of lactation when given immediately postpartum
loss of libido and gynecomastia in males
edema
aggravation of migraine headaches
change in body weight (increase, decrease)
headache
allergic rash
hepatic cutaneous porphyria becoming manifest
Dosage and Administration: PREMARIN should be administered cyclically (3 weeks of daily estrogen and 1 week off) for all indications except selected cases of carcinoma and prevention of postpartum breast engorgement.
Menopausal Syndrome—1.25 mg. daily, cyclically. Adjust dosage upward or downward according to severity of symptoms and response of the patient. For maintenance, adjust dosage to lowest level that will provide effective control.
If the patient has not menstruated within the last two months or more, cyclic administration is started arbitrarily. If the patient is menstruating, cyclic administration is started on day 5 of bleeding. If breakthrough bleeding (bleeding or spotting during estrogen therapy) occurs, increase estrogen dosage as needed to stop bleeding. In the following cycle, employ the dosage level used to stop breakthrough bleeding in the previous cycle. In subsequent cycles, the estrogen dosage is gradually reduced to the lowest level which will maintain the patient symptom-free.
Postmenopause—as a protective measure against estrogen deficiency-induced degenerative changes (*e.g.* osteoporosis, atrophic vaginitis, kraurosis vulvae)—0.3 mg. to 1.25 mg. daily and cyclically. Adjust dosage to lowest effective level.
Osteoporosis (to retard progression)—usual dosage 1.25 mg. daily and cyclically.
Senile Vaginitis, Kraurosis Vulvae with or without Pruritus—0.3 mg. to 1.25 mg. or more daily, depending upon the tissue response of the individual patient. Administer cyclically.
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No. 866—Each *yellow* tablet contains 1.25 mg., in bottles of 100 and 1,000.
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No. 867—Each *red* tablet contains 0.625 mg., in bottles of 100 and 1,000.
No. 868—Each *green* tablet contains 0.3 mg., in bottles of 100 and 1,000.

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Medicine in literature

Heritable Disorders of Connective Tissue, 4th ed., V. A. McKusick, 1,099 p., illus., 2 color plates, St. Louis, C. V. Mosby, 1972, $32.50.

"CONNECTIVE TISSUE CONNECTS the numerous branches of medical science," quotes Dr. Victor A. McKusick in the preface to this work. "Without connective tissue, medicine would come to pieces, even non-viable pieces, just like the cells of the human body."

Consequently, one objective of this work, according to Dr. McKusick, "is a synthesis of the scattered information about several conditions which have in common the fact that they are (1) generalized disorders of connective tissue and (2) heritable, even if not inherited in the individual instance."

The work is directed to the generalist—the family physician, internist, and pediatrician —who is without a particular subspecialization. However, Dr. McKusick notes that the ubiquity of connective tissue is responsible for the fact that concern with the problems of generalized and hereditary disorders of connective tissue extends to many divisions of medical science and practice.

Chapters include the clinical behavior of hereditary syndromes, the biology of normal connective tissue, homocystinuria, the Weill-Marchesani syndrome, the Ehlers-Danlos syndrome, cutis laxa, osteogenesis imperfecta, alkaptonuria, pseudoxanthoma elasticum, the mucopolysaccharidoses, genetic disorders of the osseous skeleton, and the future in the study of heritable disorders of connective tissue.

IN THE TMA LIBRARY

Ban TA: *Schizophrenia: a psychopharmalogical approach.* Springfield, Ill, Charles C Thomas, 1972.

Bennett JC, Demos GD (eds): *Drug Abuse and What We Can Do About It.* Springfield, Ill, Charles C Thomas, 1970.

Bejerot N: *Addiction: an artificially induced drive.* Springfield, Ill, Charles C Thomas, 1972.

Beter TR, Cragin WE: *The Mentally Retarded Child and his Motor Behavior: practical diagnosis and movement experiences.* Springfield, Ill, Charles C Thomas, 1972.

Blachly PH (ed): *Progress in Drug Abuse: proceedings of the third annual Western Institute of Drug Problems Summer School.* Springfield, Ill, Charles C Thomas, 1972.

Bricklin B, Piotrowski ZA, Wagner EE: *The Hand Test: a new projective test with special reference to the prediction of overt agressive behavior.* Springfield, Ill, Charles C Thomas, 1972.

Bridge CJ: *Alcoholism and Driving.* Springfield, Ill, Charles C Thomas, 1972.

Cain AC (ed): *Survivors of Suicide.* Springfield, Ill, Charles C Thomas, 1972.

Chesler P: *Women and Madness.* Garden City, NY, Doubleday, 1972.

Clark WH, Malony HN, Daane J, et al: *Religious Experience: its nature and function in the human psyche.* Springfield, Ill, Charles C Thomas, 1972.

Densen-Gerber J: *We Mainline Dreams: the Odyssey House story.* Garden City, NY, Doubleday, 1973.

Dickens F, Randle PJ, Whelan WJ (eds): *Carbohydrate Metabolism and its Disorders,* vols 1-2. New York, Academic Press, 1968.

Dubrin, AJ: *Women in Transition.* Springfield, Ill, Charles C Thomas, 1972.

Frost, HM: *Bone Modeling and Skeletal Modeling Errors,* vol 4 in *Orthopaedic Lectures.* Springfield, Ill, Charles C Thomas, 1973.

Personals

DR. JOSEPH M. WHITE, dean of the School of Medicine at The University of Texas Medical Branch at Galveston, has been selected to receive the Nicholas and Katherine Leone Award for Administrative Excellence. The award, presented for the first time two years ago, honors individuals at the Medical Branch who have "attained a level of professional achievement which warrants recognition."

DR. DAVID J. PILLOW, former Fort Worth family physician, has been appointed director of a new Family Practice Residency Program conducted by John Peter Smith Hospital in Fort Worth and The University of Texas Southwestern Medical School at Dallas. The new three-year training program had 28 residents when it began July 1.

DR. J. R. LAUGHLIN of Eagle Lake was honored by the citizens of his community April 29 with "Dr. J. R. Laughlin Appreciation Day." Dr. Laughlin has served the community for 42 years.

DR. BRUCE D. FALLIS, professor of pathology at The University of Texas Southwestern Medical School at Dallas, has been chosen a "Piper Professor of 1973" by the board of directors of the Minnie Stevens Piper Foundation. Dr. Fallis was cited by the foundation, which carries out programs to aid education, for his "dedicated teaching talent."

New officers of the Texas Radiological Society are: DRS. GORDON L. BLACK, president; FREDERICK J. BONTE, president-elect; JOHN E. BALLARD, first vice-president; and FRANCIS EDWARD O'NEILL, secretary-treasurer. The next annual meeting of the society will be March 21-23, 1974, in San Antonio.

Houston general surgeon JOHN L. PERRY has been elected president of the Harris County Unit, American Cancer Society. Elected as one of the vice-presidents of the unit is DR. LOUIS E. NEFF. TMA member DR. D. LEWIS MOORE was honored at the Harris County Unit's annual meeting for his service as president of the organization last year.

DR. KENNETH ORTEN of Tyler has been elected state advisor of the American Association of Medical Assistants. The Texas AAMA held its annual meeting recently in Wichita Falls.

Kent State University has awarded an honorary degree to DR. JOHN P. McGOVERN, Houston allergist. Dr. McGovern is an adjunct professor of allied health sciences at Kent State.

New officers of the Texas Otolaryngologic Association are DR. DENTON W. SMITH, Beaumont, president; DR. ERNEST NALLE, JR., Lubbock, president-elect; DR. JAMES L. BALDWIN, Dallas, vice president and program chairman; DR. JOHN W. YOUNGBLOOD, Austin, secretary of TMA Section on Otolaryngology; DR. BERNARD L. YOLLICK, Dallas, secretary; and DR. LEWIS A. RANEY, Dallas, treasurer.

JOHN N. KEMP, executive director of the Travis County Medical Society, has been named president of the South Central Association of Blood Banks. Mr. Kemp is also executive director of the Travis County Medical Society Blood Bank, Medical Service Bureau, and the Central Texas Medical Foundation.

Dr. White

Dr. Pillow

Dr. Fallis

RECENTLY DECEASED MEMBERS OF THE TEXAS MEDICAL ASSOCIATION

G. R. BARKER
Cleburne, 1919-1973

M. A. BLUMER
San Antonio, 1891-1972

F. S. BROOKSALER
Dallas, 1901-1973

J. H. CHAPPLE
Midland, 1901-1973

W. B. MANTOOTH, JR.
Lubbock, 1920-1973

E. K. MILLS
College Station,
1914-1973

G. F. MOOD
Midland, 1903-1973

R. K. O'LOUGHLIN
Lubbock, 1915-1973

EDDA VON BOSE
San Antonio, 1887-1973

E. E. WELCH
San Antonio, 1904-1973

IN MEMORIAM

The Memorial Library of the Texas Medical Association stands as a permanent memorial to physicians who have served their patients, their profession, and the people of Texas so faithfully over the years.

The Library ranks as one of the finest in the nation. It is providing more than 10,000 reference requests, 3,500 tapes and cassettes, and 2,500 films each year to physicians, students, and to those seeking information related to medicine and health care. The resources of the Library include 60,000 volumes, 400 tapes, and 300 scientific and lay films; more than 1,300 professional journals are received monthly. Services are provided without charge.

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Recent deaths

Dr. E. von Bose

Retired San Antonio physician Dr. Edda von Bose died Feb. 11, 1973, in San Antonio. Dr. von Bose was a family physician who took special interest in venereal diseases, acute contagious diseases, skin diseases, mental diseases, and drug addiction.

Born in Comal County, Texas, in 1887, Dr. von Bose attended Southwest Texas State College in San Marcos and The University of Texas at Austin. She was graduated with an MD degree in 1915 from The University of Texas Medical Branch in Galveston.

Dr. von Bose completed a six-month internship in anesthesiology at Scott and White Memorial Hospital in Temple, and an internship at New York Infirmary for Women and Children in New York City from 1915 until 1917. She later worked at Bellevue Hospital in New York City and for the New York City Department of Health, where she was in charge of acute contagious diseases. In 1924, Dr. von Bose completed a residency in the study of tuberculosis and chronic diseases at Montefiore Hospital in New York City.

Dr. von Bose was chief medical officer at the Federal Reformatory for Women at Alderson, W. Va., from 1927 until 1940. In 1941, she took a residency in psychiatry at St. Elizabeths Hospital in Washington, D.C., and from 1942 until 1943, she served as resident physician at Woman's Hospital in Philadelphia, Pa. She also worked at Pennsylvania Hospital Department for Mental and Nervous Diseases in Philadelphia.

Dr. von Bose returned to San Antonio in 1944 to work in the venereal disease clinic of the State Department of Health. In 1949, she became medical director of the San Antonio Department of Health's Tuberculosis Treatment Center and the City Chest Clinic. She was presented a citation and selected as the 1958 Medical Woman of the Year by the Alamo Chapter of the American Medical Women's Association, because of her outstanding work as a public health physician. Dr. von Bose retired in 1959.

Dr. von Bose was voted an inactive member of the Texas Medical Association in 1971. She was also a member of the Bexar County Medical Society, American Medical Association, and Alamo Chapter of American Medical Women's Association.

The physician is survived by two sisters, Mrs. Tonie Radcliff and Mrs. Charlotte Schaezler, both of San Antonio; and two brothers, Emil von Bose, Tampa, and Max von Bose, Miami, Fla.

Dr. von Bose

Dr. Blumer

Dr. M. A. Blumer

Former San Antonio orthopedic surgeon, Dr. Max Arthur Blumer died Nov. 6, 1972, in Miami, Fla. Cause of death was acute myocardial infarction.

Born in Rumania in 1891, Dr. Blumer came to the United States in 1903. He received a BS degree from the University of Michigan, Ann Arbor, in 1915, and earned an MD degree from the University of Michigan, Ann Arbor, in 1917.

After serving in World War I, Dr. Blumer established a private practice in Pittsburgh, Pa., until 1944, when he again served with the US Army as lieutenant colonel. In 1945 he was chief of the orthopedic section at Brooke Army Hospital in San Antonio. Dr. Blumer resumed his practice in San Antonio in 1946 and remained there until his retirement in 1959, when he moved to Bal Harbor Island, Fla., where he became chief medical director for the M.V. Freeport Lines.

Dr. Blumer was a Fellow of American College of Surgeons and International College of Surgeons, and a member of Texas Medical Association, Bexar County Medical Society, and American Medical Association.

The physician is survived by two sisters, Miss Dorothy Blumer and Mrs. Ethel Olitzky, both of Bal Harbor Island, Fla.

Dr. Brooksaler

Dr. Mills

Dr. F. S. Brooksaler

Dallas pediatrician and medical educator, Dr. Fred S. Brooksaler, died March 22, 1973, in Presbyterian Hospital of Dallas. Cause of death was congestive heart failure.

Born in Germany, Dr. Brooksaler was a 1924 graduate of Medizinische Fakultat der Universitat Heidelberg. After practicing in Mannheim, Germany, from 1925 to 1929, he came to the United States and completed a residency in pediatrics at Children's Medical Center in Dallas. He entered private practice in Dallas, and in 1953 became part-time faculty member of The University of Texas Southwestern Medical School at Dallas. He joined the faculty as a full time professor of pediatrics in 1961, and was the first recipient of the Outstanding Teacher Award of UTSMS in 1966. During the last five years of his career as a medical teaching specialist, he organized and directed the birth defect center at Children's Medical Center, Dallas. He retired in 1971.

Elected to honorary membership in Texas Medical Association in 1972, Dr. Brooksaler was a diplomate of American Board of Pediatrics and a fellow of American Academy of Pediatrics, as well as a member of Dallas and Texas Pediatric Societies, Dallas County Medical Society, and American Medical Association.

Dr. Brooksaler is survived by his wife, Irmgard Brooksaler, Dallas; and two daughters, Mrs. Carol Alkek, Dallas, and Mrs. Doris Cowl, Baltimore,Md.

Dr. E. K. Mills

Dr. Edward Kernaghan Mills, College Station internist, died March 13, 1973, of cardiac arrest. He was 58 years old.

A native of Canada, Dr. Mills attended Southern Methodist University in Dallas and received a BS degree from Louisiana State University, Baton Rouge, in 1936. He was graduated with an MD degree from Baylor College of Medicine (then located in Dallas) in 1940. After an internship at Brooke General Hospital, San Antonio, Dr. Mills entered the US Air Force as a career officer in 1941. Upon his retirement in 1971, he moved to College Station where he was with the Student Health Department at Texas A & M University.

Dr. Mills was a member of Denton County Medical Society, Aerospace Medical Association, Society of Air Force Surgeons, Texas Medical Association, and American Medical Association.

The physician is survived by his wife, Irma Nell Griffin Mills; son, Shannon Edward Mills; and daughter, Carol Helen Mills; all of College Station; mother, Mrs. Helen Thompson Mills, Dallas; and sister, Mrs. Charles Bowling, Dallas.

Dr. W. B. Mantooth, Jr.

Dr. Walter Breckenridge Mantooth, Jr., 52-year-old former Lubbock dermatologist, currently of Galveston, died Jan. 19, 1973, from a bullet wound of the chest which he sustained while visiting in Lubbock.

A native of McKinney, Dr. Mantooth earned his MD degree from The University of Texas Medical Branch at Galveston in 1945. After an internship with the Dallas Syphilis and Venereal Disease Clinic, Dallas, he began practice in Dallas. From there, he moved to Lubbock where he practiced, specializing in dermatology, until his retirement last July, when he and his wife moved to Galveston.

At the time of his death, Dr. Mantooth was a consultant to the medical staff of Texas Tech University School of Medicine in Lubbock. He was a member of Theta Kappa Psi medical fraternity, Lubbock Crosby-Garza County Medical Society, Southwestern Dermatological Society, American Academy of Dermatology, Texas Medical Association, and American Medical Association.

Survivors include his wife, Barbara Hutchins Mantooth; two sons, Walter B., III, and John Thomas, both of Lubbock; three daughters, Mrs. Carolyn Mask, Montgomery, Ala., Ann Mantooth, Austin, and Miss Deborah Jones, Lubbock; and three sisters, Mrs. Eddith Davies, El Paso, Mrs. Harold Horstman, Wolfforth, and Mrs. Johnny Bean, Fort Worth.

Dr. G. R. Barker

Cleburne family physician Dr. Gates Rickard Barker, 53, died Feb. 17, 1973, at his home in Cleburne after an illness of several months. Myocardial infarct claimed the life of the physician.

Dr. Barker was born in Ranger, Tex., the son of Jessie Lee Coffman and Robert E. Barker. After obtaining his preliminary education in the Ranger schools, he went to Furman University in Greenville, S.C., graduating with a BS in 1941. Dr. Barker then entered the US Marine Corps and served in the South Pacific until 1945, obtaining the rank of Major.

After the war, he entered Tulane University School of Medicine in New Orleans, La., graduating in 1950. Dr. Barker completed his internship at the US Naval Hospital in Philadelphia, Pa., while serving with the US Navy. In 1952, he completed a residency at Huey P. Long Charity Hospital in Pineville, La., and established his practice in Cleburne.

Dr. Barker was a member of Texas Medical Association, Johnson County Medical Society, and the Church of the Holy Comforter (Episcopal), as well as numerous civic groups in Cleburne.

He is survived by his wife, Katherine Heatly Barker; a daughter, Kay, and a son Rick, all of Cleburne; and four sisters, Mrs. D. C. Singleton, Ranger, Mrs. George Allison, Sweetwater, Mrs. Truett Harris, Lubbock, and Mrs. Elizabeth J. Ball, Houston.

Dr. J. H. Chapple

Dr. James Henry Chapple, retired EENT physician, died March 25, 1973, in Midland Memorial Hospital, Midland, after a long illness.

A 1930 graduate of University of Minnesota Medical School, Minneapolis, Dr. Chapple completed internships at Gorgas Hospital, Ancon, Panama Canal Zone and Edward Hines, Jr., Hospital, Hines, Ill. After practicing in Colon, Republic of Panama, and the Panama Canal Zone, he moved to Midland in 1936 where he continued his private practice until his retirement in 1952. Dr. Chapple was named "Doctor of the Year" in 1962 by the Andrews-Ector-Midland County Medical Society.

In addition to his membership in the Andrews-Ector-Midland County Medical Society, Dr. Chapple was a member of Texas Medical Association and American Medical Association.

The physician is survived by his wife, Victoria Fabrega Chapple, Midland; daughter, Mrs. Toya Moncrief, Midland; two sisters, Mrs. Dorothy Soper, Piedmont, Calif., and Mrs. Marjorie Reith, Walnut Creek, Calif.; and two grandchildren.

Dr. Barker

Dr. Chapple

Dr. G. F. Mood

Dr. George Foster Mood, Midland physician specializing in EENT and bronchoscopy, died on March 3, 1973 at his home. Cause of death was cancer of the lung.

Dr. Mood was born in Bowie, Tex., and received his BA degree from Southwestern University at Georgetown. He was graduated from The University of Texas Medical Branch at Galveston with an MD degree in 1930. After an internship at John Sealy Hospital (now part of The University of Texas Hospitals at Galveston), and residency at Barnes Hospital, St. Louis, Mo., Dr. Mood practiced in Houston until 1941, at which time he was called to active duty

Dr. O'Loughlin

Dr. Welch

with the US Navy. Upon his release from the service in 1946, he took a postgraduate course in ophthalmology at New York Polyclinic Medical School and Hospital, New York City. After practicing in Stamford, Tex. from 1947 until 1955, he moved to Midland where he practiced until his death.

At the time of his death, Dr. Mood was a member of the Midland County Medical Society, Texas Medical Association, and American Medical Association. He was certified by the American Board of Otolaryngology in 1934.

Surviving the physician are his wife, Judy G. Mood, Midland; one daughter, Katherine Mood Chapman, Ann Arbor, Mich.; and one son, Hugh Gibbs Mood, Dallas.

Dr. R. K. O'Loughlin

Dr. Richard Kain O'Loughlin, 56, died Feb. 22, 1973, in Methodist Hospital, Lubbock. Mitral stenosis took the life of the Lubbock neuropsychiatrist.

Dr. O'Loughlin, a native of Chicago, Ill., attended Catholic University of America, Washington, D.C., and was graduated from Georgetown University School of Medicine in Washington in 1941. After completing an internship at the Georgetown University Hospitals, Dr. O'Loughlin served as a flight surgeon in the US Army Air Corps in the Pacific, attaining the rank of major.

After the war, Dr. O'Loughlin took postgraduate work at the University of Pennsylvania Graduate Hospital in Philadelphia, and completed a residency at Pennsylvania Hospital in Philadelphia in 1949. He had practiced in Lubbock since 1949.

Dr. O'Loughlin, a past president of the Lubbock-Crosby-Garza County Medical Society, was a member of American Medical Association and Texas Medical Association. He was a fellow of the American Psychiatric Association.

He is survived by his wife, Carol Frick O'Loughlin, Lubbock; four daughters, Mrs. Sharon Constantine and Mrs. Kathleen Artzer, both of Denver, Colo., Mrs. Jeanne Holderman, Amarillo, and Theresa Lynn O'Loughlin, Lubbock; three sons, Robert of Denver, Colo., and Richard and Patrick, both of Lubbock; his step-mother, Mrs. Rose O'Loughlin, Terre Haute, Ind.; two brothers, Walter O'Loughlin, Baltimore, Md., and Robert O'Loughlin, Lawrenceburg, Ind.; and 11 grandchildren.

Dr. E. E. Welch

San Antonio internist, Dr. Eldred E. Welch died March 24, 1973, in San Antonio. Cardiac arrest claimed the life of the 67-year-old-physician after an illness of two years.

He was born in Callao, Mo., the son of Dr. William Welch and Myrtle Randall. Several of his forefathers were also physicians, one being Dr. Amos Pollard who died in the Battle of the Alamo.

Dr. Welch attended the University of Missouri, Columbia, Mo., and was graduated with an MD degree from St. Louis University in 1930. He interned at St. John's Mercy Hospital, St. Louis, Mo., from 1930 to 1931. In 1931 he entered private practice in Kansas City and in 1942, he joined the US Army. After his release from military service, Dr. Welch moved to San Antonio, remaining in private practice until March, 1971, when he retired due to ill health.

Dr. Welch was a member of Bexar County Medical Society, Texas Medical Association, American Medical Association, and the Reticuloendothelial Society.

He was also a member of the Masonic Orient Lodge No. 546 and Oriental Commandery No. 35 of Kansas City, Mo., and a member of the Scottish Rite Bodies and Alzafar Shrine of San Antonio.

He is survived by his wife, Lorraine Welch of San Antonio; one brother, Martin Welch of Pacifica, Calif.; and one sister, Mrs. Martha Lindvall of Culver, Ind.

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eatment. If no dissolution of slough occurs by then,
urther application is unlikely to be rewarding
recheck for break in procedure, usually due to use
f cleansing or antiseptic agents which impair the
ffectiveness of the enzyme in TRAVASE).

Clinical observation and photos by Kathleen Brough
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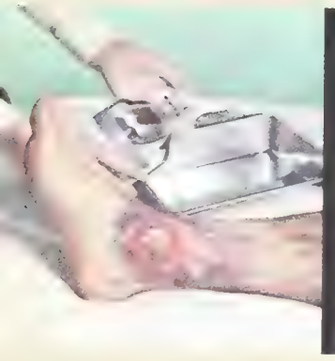
APPLICATION TECHNIQUE: TRAVASE Ointment is indicated as an adjunct to established methods of wound care for biochemical debridement. It dissolves and facilitates the removal of necrotic tissues and purulent exudates.

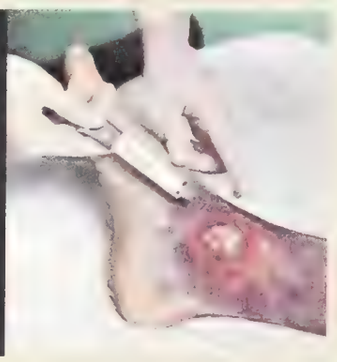
TRAVASE enzymes are selective. Virtually inactive on viable tissue.

When this recommended nursing technique is followed without deviation, this procedure can generate visible improvement within 48 hours . . .



(Ulcer being irrigated) Thoroughly cleanse and irrigate the wound area using **only** sterile water or sodium chloride solution. Be sure to cleanse the wound of any antiseptics or heavy-metal antibacterial agents which may interfere with the enzyme activity.

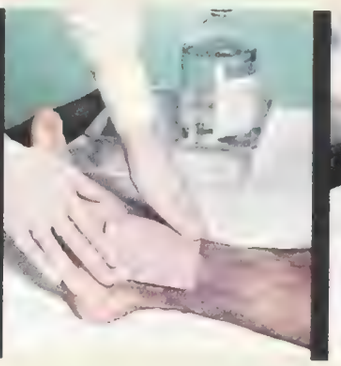
Thoroughly soak the wound area. Where practical, tubbing or showering is suitable. Or wet soaks with gauze pads may be used. Remember to avoid chemical cleansing agents which may interfere with the therapy.



With a sterile cotton swab or finger cot, apply a very **thin** layer of TRAVASE Ointment. The ointment spreads easily and only a small amount is needed (a small dab of ointment will cover an area as big as the back of a hand).

Be sure, though, to rub the ointment well into every crack or crevice of the wound and overlap the surrounding skin one-fourth to one-half inch beyond the area to be debrided—to be sure of complete coverage.

Apply loose, wet dressings, thoroughly soaked in sodium chloride solution or sterile water to the area to be debrided only.



Cover the moist dressings with an occlusive wrap (Saran wrap, Telfa Pads, or other plastic wrappings) to keep wound site moist. Do not extend occlusive wrap over ½ inch beyond area to be debrided.

When changing dressing, gently wipe away the dissolved material. Repeat the complete dressing procedure, including application of TRAVASE Ointment, four times daily.

The ulcer shown in these photos is simulated on a model in order to demonstrate the correct TRAVASE application technique.

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_____ Additional Information on TRAVASE® Ointment (brand of Sutilains)

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DESCRIPTION: TRAVASE® (brand of sutilains) Ointment is a sterile preparation of proteolytic enzymes, elaborated by **Bacillus subtilis**, in hydrophobic ointment base consisting of 95% white petrolatum and 5 polyethylene. One gram of ointment contains approximately 82,000 ca units* of proteolytic activity.

ACTION: TRAVASE Ointment selectively digests necrotic soft tissues proteolytic action. It dissolves and facilitates the removal of necrotic tissues and purulent exudates that otherwise impair formation of granulation tissue and delay wound healing (4).

At body temperatures these proteolytic enzymes have optimal activity the pH range from 6.0 to 6.8.

INDICATIONS: For wound debridement (1,2)—TRAVASE Ointment is indicated as an adjunct to established methods of wound care for biochemical debridement of the following lesions:

Second and third degree burns,
Decubitus ulcers,
Incisional, traumatic, and pyogenic wounds,
Ulcers secondary to peripheral vascular disease.

CONTRAINDICATIONS: Application of TRAVASE (brand of sutilains) Ointment is contraindicated in the following conditions:

Wounds communicating with major body cavities,

Wounds containing exposed major nerves or nervous tissue,

Fungating neoplastic ulcers,

Wounds in women of child-bearing potential—because of lack of laboratory evidence of effects of TRAVASE upon the developing f

WARNING: Do not permit TRAVASE Ointment to come into contact wi the eyes. In treatment of burns or lesions about the head or neck, sho the ointment inadvertently come into contact with the eyes, the eyes s be immediately rinsed with copious amounts of water, preferably steri

PRECAUTIONS: A moist environment is essential to optimal activity of enzyme. Enzyme activity may also be impaired by certain agents. In v several detergents and antiseptics (benzalkonium chloride, hexachlorophene, iodine, and nitrofurazone) may render the substrate indifferent to the action of the enzyme (3). Compounds such as thimer containing metallic ions interfere directly with enzyme activity to a slight degree, whereas neomycin, sulfamylon-streptomycin, and penici do not affect enzyme activity. In cases where adjunctive topical therap has been used and no dissolution of slough occurs after treatment wit TRAVASE Ointment for 24 to 48 hours, further application, because of interference by the adjunctive agents, is unlikely to be rewarding.

In cases where there is existent or threatening invasive infection, appropriate systemic antibiotic therapy should be instituted concurrent

Although there have been no reports of systemic allergic reaction in humans, studies have shown that there may be an antibody response i humans to absorbed enzyme material.

ADVERSE REACTIONS: Adverse reactions consist of mild, transient pa paresthesias, bleeding and transient dermatitis. Pain usually can be controlled by administration of mild analgesics. Side effects severe enough to warrant discontinuation of therapy occasionally have occurr

If bleeding or dermatitis occurs as a result of the application of TRAV (brand of sutilains) Ointment, therapy should be discontinued. No syst toxicity has been observed as a result of the topical application of TRAVASE Ointment.

Dosage and Administration

STRICT ADHERENCE TO THE FOLLOWING IS REQUIRED FOR EFFEC RESULTS OF TREATMENT

1. Thoroughly Cleanse and Irrigate Wound Area with sodium chl or water solutions. Wound **MUST** be cleansed of antiseptics o heavy-metal antibacterials which may denature enzyme or alte substrate characteristics (e.g., Hexachlorophene, Silver Nitrate Benzalkonium Chloride, Nitrofurazone, etc.).
2. Thoroughly moisten wound area either through tubbing, showe or wet soaks (e.g., sodium chloride or water solutions).
3. Apply TRAVASE Ointment in a thin layer assuring intimate co with necrotic tissue and complete wound coverage extending ¼ to ½ inch beyond the area to be debrided.
4. Apply loose wet dressings.
5. Repeat entire procedure 3 to 4 times per day for best results.

How Supplied

3P3002 TRAVASE Ointment is supplied sterile in one-half ounce tube (14.2 g.) containing 82,000 casein units of sutilains per gram hydrophobic ointment base.

The ointment must be stored under refrigeration at 2° to 10° C (35° to 50° F).

References

1. Garrett, T. A. **Bacillus subtilis** protease, a new agent for debridemen Clin. Med. **76:** 11-15, 1969.

2. Hesterberg, R. (Necrosis treatment on fermentative basis). Doctoral dissertation from the Chirurgical Clinic of the University of Munich. Dissertation Printing: Charlotte Schoen, Munich, 1964. (Ger.)

3. Howes, E. L. The healing of the burn may be hindered by its first ai therapy. 20th Cong. Soc. Inter. Chir., Rome, Italy, September 14-23, 19

4. Prytz, B., Connell, J. F., Jr., and Rousselot, L. M. **Bacillus subtilis** protease in the digestion of burn eschar. Clin. Pharmacol. Therap. **7:** 347-51, 1966.

*A casein unit is the amount of enzyme required to produce the same optical density at 275 mμ as that of a solution of 1.5 mcg. tyrosine/m after the enzyme has been incubated with 35 mg. of casein at 37° C. one minute.

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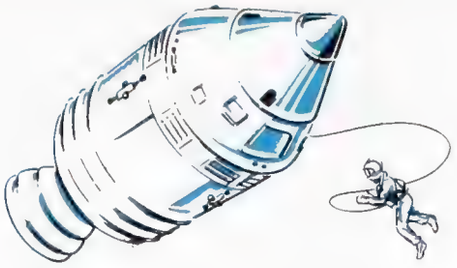

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Each tablet contains: METHENAMINE, 300 mg.; SODIUM ACID PHOSPHATE, 500 mg.

Uro-Phosphate gives comfort and protection when inactivity causes discomfort in the urinary function. It keeps calcium in solution, preventing calculi; it maintains clear, acid, sterile urine; it encourages complete voiding and lessens frequency when residual urine is present.

Uro-Phosphate contains sodium acid phosphate, a natural urinary acidifier. This component is fortified with methenamine which is inert until it reaches the acid urinary bladder. In this environment it releases a mild antiseptic keeping the urine sterile.

Uro-Phosphate is safe for continuous use. There are no contra-indications other than acidosis. It can be given in sufficient amount to keep the urine clear, acid and sterile. A heavy sugar coating protects its potency.

Dosage:

For protection of the inactive patient 1 or 2 tablets every 4 to 6 hours is usually sufficient to keep the urine clear, acid and sterile.

2 tablets on retiring will keep residual urine acid and sterile, contributing to comfort and rest.

A clinical supply will be sent to physicians and hospitals on request.

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IN ASTHMA
IN EMPHYSEMA

optional therapy

THE mudranes®

All Mudranes are bronchodilator-mucolytic in action, and are indicated for symptomatic relief of bronchial asthma, emphysema, bronchiectasis and chronic bronchitis. **MUDRANE tablets** contain 195 mg. potassium iodide; 130 mg. aminophylline; 21 mg. phenobarbital (Warning: may be habit-forming); 16 mg. ephedrine HCl. **Dosage** is one tablet with full glass of water, 3 or 4 times a day. **Precautions** are those for aminophylline-phenobarbital-ephedrine combinations. **Iodide side-effects:** May cause nausea. Very long use may cause goiter. Discontinue if symptoms of iodism develop. **Iodide contraindications:** Tuberculosis; pregnancy (to protect the fetus against possible depression of thyroid activity). **MUDRANE-2 tablets** contain 195 mg. potassium iodide; 130 mg. aminophylline. **Dosage** is one tablet with full glass of water, 3 or 4 times a day. **Precautions** are those for aminophylline. **Iodide side-effects and contraindications are listed above. MUDRANE GG tablets** contain 100 mg. glyceryl guaiacolate; 130 mg. aminophylline; 21 mg. phenobarbital (Warning: may be habit-forming); 16 mg. ephedrine HCl. **Dosage** is one tablet with full glass of water, 3 or 4 times a day. **Precautions** are those for aminophylline-phenobarbital-ephedrine combinations. **MUDRANE GG-2 tablets** contain 100 mg. glyceryl guaiacolate; 130 mg. aminophylline. **Dosage** is one tablet with full glass of water, 3 or 4 times a day. **Precautions:** Those for aminophylline. **MUDRANE GG Elixir.** Each teaspoonful (5 cc) contains 26 mg. glyceryl guaiacolate; 20 mg. theophylline; 5.4 mg. phenobarbital (Warning: may be habit-forming); 4 mg. ephedrine HCl. **Dosage:** Children, 1 cc for each 10 lbs. of body weight; one teaspoonful (5 cc) for a 50 lb. child. Dose may be repeated 3 or 4 times a day. Adult, one tablespoonful, 4 times daily. All doses should be followed with ½ to full glass of water. **Precautions:** See those listed above for Mudrane GG tablets.

MUDRANE—original formula
First choice

MUDRANE-2
When ephedrine is too exciting or is contraindicated

MUDRANE GG
During pregnancy or when K.I. is contraindicated or not tolerated

MUDRANE GG-2
A counterpart for Mudrane-2

MUDRANE GG ELIXIR
For pediatric use or where liquids are preferred

Clinical specimens available to physicians.

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an effective combination of medication and psychology for rheumatoid arthritis

unique 10-grain buffered aspirin

CAMA® INLAY-TABS

Each tablet contains aspirin, 600 mg. (10 grains); magnesium hydroxide, N.F., 150 mg.; aluminum hydroxide dried gel, 150 mg.

Unique design. In shape, size and color, CAMA looks like no other aspirin. It gives patients an "individualized" medication—one they may find more acceptable and possibly respond to more positively.

Fits prescribing patterns. CAMA's 10-grain aspirin strength is suited to the higher dosage regimens generally used for arthritis.

Adjustable dosage. Scored tablet lets you increase or decrease dosage in 5 or 10 grain increments.

Economical. CAMA costs no more per dose than many 5-grain buffered aspirin tablets. Give your arthritic patients the added benefits of CAMA. Ask your Dorsey representative for a generous supply or write Director of Professional Relations.

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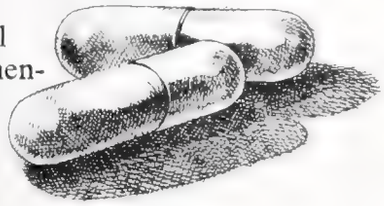
Because you practice medicine in the Lone Star State...

You carry one of the heaviest patient loads in the country. Since this may include a number of patients with gastritis and duodenitis... you should know more about Librax®

Helps reduce anxiety-related G.I. symptoms

A patient may blame his attacks of gastritis or duodenitis on "something he ate" but contributing factors may be his job, marital problems, financial worries or some other unmentioned source of stress and excessive anxiety that exacerbated the condition. Whether it is "something he ate" or "something eating him," adjunctive Librax can help. Librax offers both the antianxiety action of Librium® (chlordiazepoxide HCl), that can help relieve excessive anxiety, and the dependable anticholinergic action of Quarzan® (clidinium Br), that can help reduce gastrointestinal hypermotility and hypersecretion.



Patient-oriented dosage — up to 8 capsules daily in divided doses

For optimal response, dosage can be adjusted to suit patient needs—1 or 2 capsules, 3 or 4 times a day.

To help relieve anxiety-linked symptoms in gastritis and duodenitis

adjunctive Librax®

ROCHE

Each capsule contains 5 mg chlordiazepoxide HCl and 2.5 mg clidinium Br.

Before prescribing, please consult complete product information, a summary of which follows:

Contraindications: Patients with glaucoma; prostatic hypertrophy and benign bladder neck obstruction; known hypersensitivity to chlordiazepoxide hydrochloride and/or clidinium bromide.

Warnings: Caution patients about possible combined effects with alcohol and other CNS depressants. As with all CNS-acting drugs, caution patients against hazardous occupations requiring complete mental alertness (*e.g.*, operating machinery, driving). Though physical and psychological dependence have rarely been reported on recommended doses, use caution in administering Librium (chlordiazepoxide hydrochloride) to known addiction-prone individuals or those who might increase dosage; withdrawal symptoms (including convulsions), following discontinuation of the drug and similar to those seen with barbiturates, have been reported. Use of any drug in pregnancy, lactation, or in women of childbearing age requires that its potential benefits be weighed against its possible hazards. As with all anticholinergic drugs, an inhibiting effect on lactation may occur.

Precautions: In elderly and debilitated, limit dosage to smallest effective amount to preclude development of ataxia, oversedation or confusion (not more than two capsules per day initially; increase gradually as needed and tolerated). Though generally not recommended, if combination therapy with other psychotropics seems indicated, carefully consider individual pharmacologic effects, particularly in use of potentiating drugs such as MAO inhibitors and phenothiazines. Observe usual precautions in presence of impaired renal or hepatic function. Paradoxical reactions (*e.g.*, excitement, stimulation and acute rage) have been reported in psychiatric patients. Employ usual precautions in treatment of anxiety states with evidence of impending depression; suicidal tendencies may be present and protective measures necessary. Variable effects on blood coagulation have been reported very rarely in patients receiving the drug and oral anticoagulants; causal relationship has not been established clinically.

Adverse Reactions: No side effects or manifestations not seen with either compound alone have been reported with Librax. When chlordiazepoxide hydrochloride is used alone, drowsiness, ataxia and confusion may occur, especially in the elderly and debilitated. These are reversible in most instances by proper dosage adjustment, but are also occasionally observed at the lower dosage ranges. In a few instances syncope has been reported. Also encountered are isolated instances of skin eruptions, edema, minor menstrual irregularities, nausea and constipation, extrapyramidal symptoms, increased and decreased libido—all infrequent and generally controlled with dosage reduction; changes in EEG patterns (low-voltage fast activity) may appear during and after treatment; blood dyscrasias (including agranulocytosis), jaundice and hepatic dysfunction have been reported occasionally with chlordiazepoxide hydrochloride, making periodic blood counts and liver function tests advisable during protracted therapy. Adverse effects reported with Librax are typical of anticholinergic agents, *i.e.*, dryness of mouth, blurring of vision, urinary hesitancy and constipation. Constipation has occurred most often when Librax therapy is combined with other spasmolytics and/or low residue diets.

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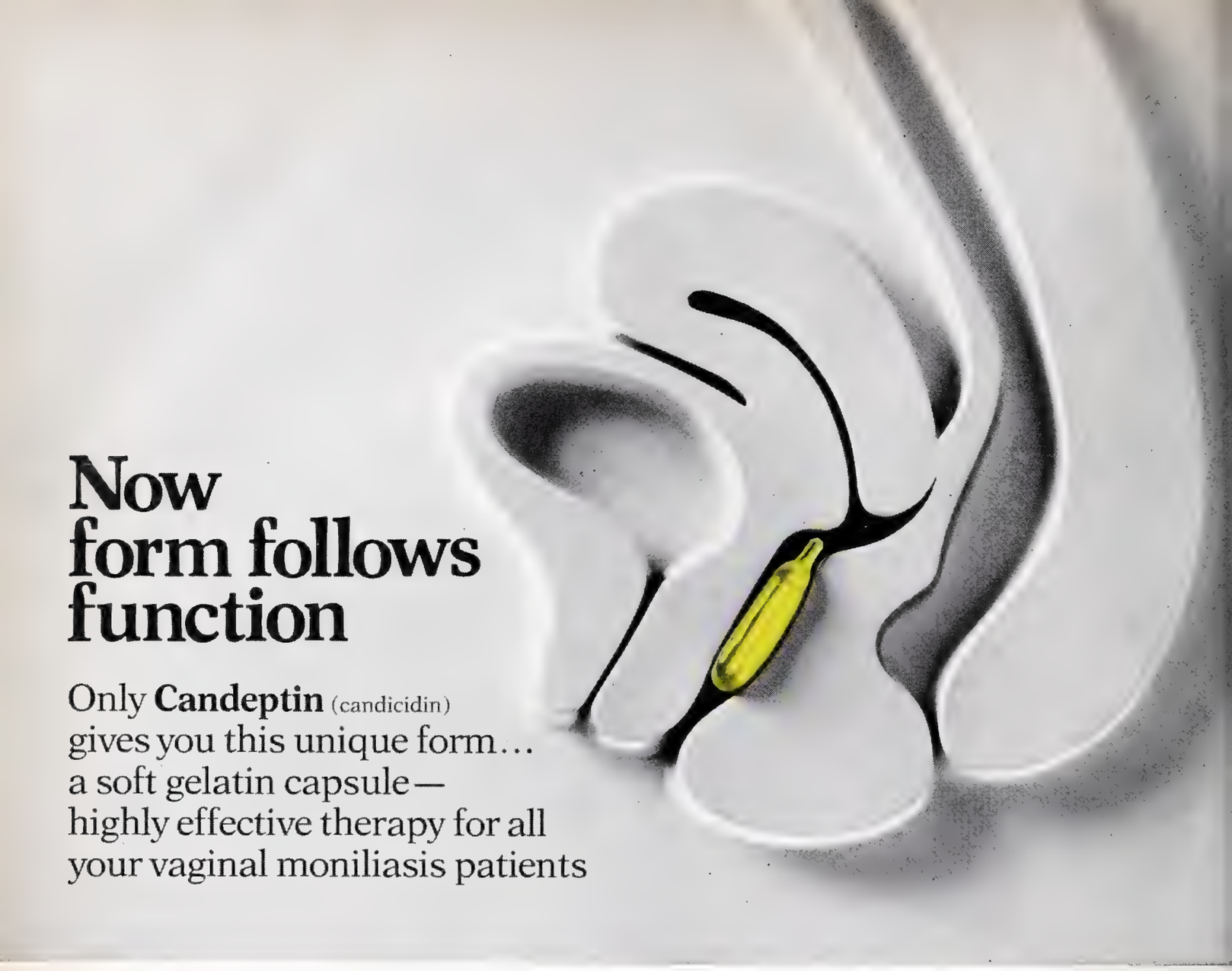

Now form follows function

Only **Candeptin** (candicidin) gives you this unique form... a soft gelatin capsule— highly effective therapy for all your vaginal moniliasis patients

CANDEPTIN® (candicidin) VAGELETTES™ Vaginal Capsules...a unique dosage form... anatomically and therapeutically designed to extend flexibility in the treatment of vaginal moniliasis.

Virtually unlimited application

CANDEPTIN VAGELETTES Vaginal Capsules provide the specific high potency antimonilial agent, candicidin, in a soft gelatin capsule—the shape designed with your patient in mind. It permits easy manual insertion without the need for an applicator or inserter...of particular value for the pregnant patient...for *intravaginal use.* By cutting off the tip of the narrow soft end, the contents can be extruded through an intact hymen for *intravaginal use.* And it is readily adaptable to *topical application* for labial involvement, and/or *intravaginal use* to treat mucosal infection.

CANDEPTIN (candicidin) provides:

Rapid results

Prompt, symptomatic relief—itching, burning, and discharge subside in 48-72 hours[1]
Soothing, miscible ointment permits complete contact with affected tissue.
Usually cures in a single 14-day course of therapy.[2,3,4]

Safe

Exact dosage assured.[2,3]
No side effects, clinical reports of irritation or sensitization extremely rare.

Convenience

Easy to use intravaginally and/or topically for labial involvement.
Encourages patient acceptance and cooperation.
Therapy is easy to start in your office.

Clinical proof of potency

CANDEPTIN (candicidin) is significantly more potent *in vitro* than nystatin.[5] CANDEPTIN Vaginal Ointment and Tablets have a clinical record of cure rates of 90% and more in pregnant and non-pregnant patients.[1,4,6] In recent studies on CANDEPTIN VAGELETTES Vaginal Capsules, involving both gravid and non-gravid patients, a 100% culture-confirmed cure rate was achieved with a single 14-day course of therapy.[2,3]

Unique CANDEPTIN® (candicidin) VAGELETTES™ Vaginal Capsules

Description: CANDEPTIN (candicidin) Vaginal Ointment contains a dispersion of candicidin powder equivalent to 0.6 mg. per gm. or 0.06% Candicidin activity in U.S.P. petrolatum. 3 mg. of Candicidin is contained in 5 gm. of ointment or one applicatorful. CANDEPTIN Vaginal Tablets contain Candicidin powder equivalent to 3 mg. (0.3%) Candicidin activity dispersed in starch, lactose and magnesium stearate. CANDEPTIN VAGELETTES Vaginal Capsules contain 3 mg. of Candicidin activity dispersed in 5 gm. U.S.P. petrolatum.
Action: CANDEPTIN Vaginal Ointment, Vaginal Tablets, and VAGELETTES Vaginal Capsules possess anti-monilial activity.
Indications: Vaginitis due to Candida albicans and other Candida species.
Contraindications: Contraindicated for patients known to be sensitive to any of its components. During pregnancy manual Tablet or VAGELETTES Capsule insertion may be preferred since the use of the ointment applicator or tablet inserter may be contraindicated.
Caution: During treatment it is recommended that the patient refrain from sexual intercourse or the husband wear a condom to avoid re-infection.
Adverse Reaction: Clinical reports of sensitization or temporary irritation with CANDEPTIN Vaginal Ointment, Vaginal Tablets or VAGELETTES Vaginal Capsules have been extremely rare.
Dosage: One vaginal applicatorful of CANDEPTIN Ointment or one Vaginal Tablet or one VAGELETTES Vaginal Capsule is inserted high in the vagina twice a day, in the morning and at bedtime, for 14 days. Treatment may be repeated if symptoms persist or reappear.
Available Dosage Forms: CANDEPTIN Vaginal Ointment is supplied in 75 gm. tubes with applicator (14-day regimen requires 2 tubes). CANDEPTIN Vaginal Tablets are packaged in boxes of 28, in foil with inserter—enough for a full course of treatment. CANDEPTIN VAGELETTES Vaginal Capsules are packaged in boxes of 14 (14-day regimen requires 2 boxes.)

Store under refrigeration to insure full potency.

Federal law prohibits dispensing without prescription.

References: **1.** Olsen, J.R.: Journal-Lancet *85*:287 (July) 1965. **2.** Giorlando, S.W.: Ob/Gyn Dig. *13*:32 (Sept.) 1971. **3.** Decker, A.: Case Reports on File, Medical Department, Julius Schmid. **4.** Giorlando, S.W., Torres, J.F., and Muscillo, G.: Am. J. Obst. & Gynec. *90*: 370 (Oct. 1) 1964. **5.** Lechevalier, H.: Antibiotics Annual 1959-1960. New York, Antibiotica Inc., 1960. pp. 614-618. **6.** Friedel, H.J.: Maryland M.J., *15*:36 (Feb.) 1966.

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UROLOGIST, board certified or eligible, to associate with a progressive and expanding multispecialty group in West Texas. Many fringe benefits including retirement program. No investment required. Adjoining accredited hospital. City population 35,000. Contact Ad-236, *Texas Medicine*, 1801 North Lamar Blvd., Austin, Texas 78701.

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GENERAL PRACTITIONER: Excellent location in the Lost Pines of Texas area. Growing community of 3,500 along the beautiful Colorado river has an excellent opportunity for a good family general practitioner. Excellent small hospital (25 beds) and nursing home (62 beds) complex. Guaranteed salary, clinic environment and other fringe benefits will make this difficult to turn down if interested in working in a progressive rural community. Write Ad-386, *Texas Medicine*, 1801 North Lamar Boulevard, Austin, Texas 78701.

FP OR IM TO JOIN THREE MAN GROUP (all ABFP). Investigate facilities, compatability, economics and environment personally with wife and family. Community Health Center, P.O. Box 672, Trinity, Texas. 713-594-3595 for Barnes, Colwell or Jones.

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GENERAL PRACTITIONER AND INTERNIST. Newly constructed, multi-specialty, 6 man clinic in West Texas city of 180,000. New 120 bed hospital adjacent to clinic. Top salary with partnership opportunity in two years. Interested applicants send curriculum vitae to Ad-438, *Texas Medicine*, 1801 North Lamar Blvd., Austin, Texas 78701.

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GENERAL PRACTICE—Family practice with two other practitioners. New 43 bed hospital. No investments, other benefits negotiable to your desires, equal privileges, excellent income assured. Contact M. H. Shankles, Administrator, Shamrock General Hospital, 1000 South Main, Shamrock, Texas 79079. Telephone AC806-256-2114.

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EMERGENCY ROOM PHYSICIAN—To become member of a 3-man group furnishing full-time emergency room coverage for active, modern, well equipped 288 bed JCAH hospital in North Central Texas within two hours drive of metropolitan areas, fishing and hunting resorts. Regular hours, none of the usual problems that are experienced in private practice, plus attractive guarantee. For more information call AC817-723-6767.

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Editorials

HEALTH CARE DELIVERY: FOREIGN AND DOMESTIC

Foreign and domestic health care delivery is a timely topic since several proposals for a national health care insurance program in this country are pending in Congress. They range from our own Medicredit program, which would eliminate some existing gaps in our health care delivery system while preserving the vitality of our present pluralistic delivery system, to the Kennedy-Griffiths proposal, which would create a compulsory national health insurance system largely financed and controlled by the Federal government.

Sen. Kennedy is fond of pointing to the nationalized systems of Europe as models worthy of emulation. Last summer I spent five weeks studying the nationalized systems in Great Britain, Sweden, West Germany, and the Soviet Union. Last spring I spent two weeks touring Indian reservations in this country, evaluating the kind of health care provided by the Public Health Service.

Let's retrace my steps and see just how effective we might expect government to be in meeting our two major health care needs we have in this country: protecting everyone against the costs of catastrophic illness, and assuring every citizen, including those who live in the ghetto and in rural areas, of access to quality care at reasonable cost.

I was determined to keep an open mind while in Europe and not fall into the trap of looking only for what is wrong with other systems to prove what is right with ours. I gained some valuable insights.

Contrary to what I had been led to believe, for instance, most of the people I talked to were pretty well satisfied with their systems. The two major reasons for this are that under the nationalized health insurance programs, minimum levels of care are guaranteed to all citizens, and they are protected against the high costs of long or serious illness.

In these two areas, the nationalized systems of Europe do a better job than we do.

Nevertheless, no country is free of serious health care problems, regardless of how health care is delivered. In fact, the similarity between their problems and ours is remarkable. National health insurance may provide financial access to care, but physical access is quite another thing. It is true that in this country we have not been able to substantially alleviate the problem of maldistribution, but—and this is a point our critics usually ignore—neither has anyone else!

I visited in Flen, Sweden, located about 75 miles from Stockholm. It has a modern, fully-equipped health center as good as you'll find anywhere, but it lacks physicians! It is set up for five, but under the nationalized Swedish system, only two physicians have been provided. Consequently, this clinic can handle only emergency cases; for anything less, patients have to travel to a major medical center many miles away.

Sweden is roughly the size of New York State, with a population equivalent to that of the New York City metropolitan area.

Indeed, even in relatively small countries, solving rural health problems is a difficult task; not one of the countries I visited has resolved the maldistribution problem. Not even Russia, with its unlimited power of conscription, has been able to bring it under control. To try and ease the rural health problem, the Soviets dictate where each new physician will spend his first three years of practice, but few of these physicians stay put after the three years are up. So the Russians are offering suspiciously capitalistic temptations such as higher salaries, guaranteed employment for spouses, and free post-graduate educational opportunities.

The European systems also have other problems. Just as with Medicare, new demands on the delivery system have led to rising costs and bottlenecks in avenues of physical access to

care. In Sweden, health care costs soared 614% between 1950 and 1966—more than three times the rate of increase in America during the same period. In Great Britain the average delay for a tonsillectomy is more than 20 weeks, and the patient with hernia or varicose veins must wait as long as several years for treatment.

Even the Kremlin has been unable to cope with demands for subsidized health care. In Moscow, for instance, because of a shortage of physicians in clinics and long waiting periods, the people have turned to the Russian emergency ambulance service for care. The result has been a rash of needless calls, while patients with true emergencies must wait up to 90 minutes or more. A weekly Russian newspaper, *The Literaturnaya Gazeta,* recently complained, "Before, when a doctor's visit cost something to the patient, nobody dreamed of calling in the doctor just to solve his hesitancy. Now, when medical treatment is free, everyone wants to be treated scientifically and by a highly-skilled doctor."

There is also overutilization of hospitals in some of the European systems. In Sweden the average stay is 12.5 days as compared to 8 days in this country. The average German patient stays in the hospital 19 days despite a shortage of hospital beds.

Another problem with systems fully subsidized by the government is that today's government appropriations rarely live up to yesterday's political promises. The English system is suffering from an acute lack of funds since the health care plan must compete financially with other government programs. Both the number and the quality of British hospitals leave much to be desired.

Not surprisingly, many of the difficulties found in the nationalized systems of Europe are common to our own Indian Health Service. The Federal government has been responsible for Indian health care since 1849. Today, for an eligible Indian population of about 415,000, the service operates 51 hospitals, 74 health centers, and more than 300 field health stations. Medical staffing is by physicians in government service. Some care is also provided under contract with private physicians.

Earlier this year, I visited a Blackfoot Indian reservation in Browning, Mont, and the Navaho Nation and the Pueblo Indians in New Mexico. The health conditions among the 7,000 Indians on the Blackfoot reservation is typical. A 34-bed modern hospital with a good outpatient clinic is run by the PHS. The medical staff consists of five physicians provided by the National Health Service Corps. This means a turnover of physicians at two-year intervals, and an interruption in continuity of care.

These physicians voiced considerable frustration at the bureaucracy and red tape which stymies their attempts to provide quality care. One young physician told me that he had previously criticized the AMA for its stand against bureaucracy in medicine, but after seven months in the reservation hospital, he said the AMA was well justified in its fight against governmentalized medicine. The major problem in the Indian health service, as in the English system, is inadequate financial support due to shifting political winds.

Dr. William Stocker, a general medical officer in the Indian health service in Clinton, Okla, summed up the financial plight in a recent letter to *American Medical News.* He said that in December, the federal government notified the physicians at his hospital that funds for private contract care were expended. This meant denying elective surgery and subspecialty referrals to the Indian patients. Also in December a freeze was ordered on the purchase of drugs and laboratory supplies because of a lack of funds, and Dr. Stocker concluded, "As a physician, I'm

being forced into situations that require me either to deliver poor medical care or to spend money against orders and warnings from the government bureaucracy. The result is poor medical care and frustration for both patients and physicians."

This incident only reinforces the belief that the government is poorly equipped to exercise long-range stewardship over any health care system. We can also conclude that government health insurance programs are mainly financing mechanisms and do not take into account organizational supply and demand factors. The results are often rising costs, overutilization of services, and restricted physical access to care. For these reasons, the quality of governmentalized health care cannot compare with America's present pluralistic health care system. Medical experts in every country I visited agreed that in terms of quality, we have the finest system in the world —bar none.

The high quality of American medicine is due to the initiatives and incentives provided by the vitality of a free and pluralistic health care system. Nevertheless, we must find ways of protecting everyone against the high costs of catastrophic illness, and improve access to care for every American, including the disadvantaged.

We have already taken numerous steps to increase the supply of both health care personnel and resources. Mobile health clinics such as those the AMA helped provide in the ghettos of Chicago are helping to improve health care in disadvantaged areas. I believe that mobile health clinics such as these, perhaps utilizing railroad cars or vans, can help erase health care gaps among the Indians.

I also recommend that financing for health care for the Indians be included in the kind of insurance program now covering federal employees rather than be subject to the whimsies of congressional appropriation.

For the larger population, a national health insurance program such as Medicredit should go far toward alleviating health care gaps. People would get graduated credits on their income taxes to enable them to buy health insurance protection. Everyone would be eligible and people too poor to pay taxes would have their insurance premiums paid in full by the government. Medicredit would mean that the stewardship for our medical care system would remain largely in private hands, and the degree of government help would be limited to real help. It would also protect every American against catastrophic illness costs, and would include coverage for less expensive outpatient care.

There are some physicians who do not approve of our Medicredit proposal, but the AMA and every American physician must be prepared to respond to real health care needs of the time. To meet these needs will require a strong and united profession. Unless we in the medical profession are capable of exercising the necessary leadership, then the government inevitably will.

The great Sir William Osler, in another period of revolutionary medical changes, consoled his troubled colleagues by quoting to them John Keats' faith in progress: "So on our heels a fresh perfection treads, born of us and fated to excel us."

Charles A. Hoffman, MD,
Huntington, W Va, President,
American Medical Association.

CONTINUITY BRINGS RESULTS

As I concluded my year as president of Dallas County Medical Society, I reviewed its activities and looked for some vast scheme that was conceived, developed, and finally realized. I found none! And rightly so, for our society has not been developed by vast schemes with quick solutions, but rather by slow additions, moving cautiously from one project to another, gaining new interests, knowledge, and respect as we proceed. Tasks completed during a president's term of office were most often initiated by his immediate predecessors, and often so will those tasks begun by any current president. These facts serve but to make one realize what solid continuity our society is built upon.

The president of any large medical society has many demands upon his time. The community involvement of our society makes it even more so locally. This involvement represents a fine example of continuity in our society, and has served to develop an excellent relationship with the many segments of our community. During 1972 some community projects have been realized while others have been initiated, and some are on-going. We have seen the Dallas Health Planning Council become a reality, along with the city-sponsored emergency ambulance service. The community activities in which our society is involved seem unending. To name a few—working with the new airport authority along with the Tarrant County Medical Society in planning for medical facilities; continuing activities toward the development of a county-wide public health department; schools for emergency medical personnel and law enforcement officers; and continuing to improve our relationships with the bar association and other professional organizations. Representatives of our society have met with representatives of various insurance companies in an effort to improve our relationships.

We realize that we must continue to seek out areas of mutual concern and interest, while at the same time defining a common goal and working with all our strength to obtain the best for everyone. This is necessary if we are to continue to have a voice in any alteration in the delivery of medical care.

Continuity in each county medical society is certainly something to strive for and to maintain. With the structure of our medical organization being such that ideas are passed from the local county group to the state level and finally to the national, it behooves us to maintain a close continuity with our state and national organization. Only then can our local efforts and desires be combined into a national effort. Through these channels our opinions can be voiced and ultimately expressed by our representatives. If it seems that too little is being done, think instead: Perhaps too few are involved!

Today, as probably never before, we need to present a unified front so as to exert a maximum of influence, and this can be accomplished through a continuity of efforts.

Jack T. Chisolm, MD, Dallas.

TEXAS' MATERNAL DEATHS

Ninety-nine Texas women died during or within 90 days of a pregnancy in 1971.

Fifty-five died from obstetrical disease, 24 of illnesses made worse by the pregnancy, and 14 of unrelated disorders. In six patients, the cause of death could not be determined.

The maternal mortality rate, based on direct obstetrical causes only, was 2.4/10,000 live births. Overall, these statistics are better than those for 1969 and 1970, the last two years reported.[1,2]

Hemorrhage from ruptured uterus continued to be the largest single cause of maternal death. Thirty-one women have died from this complication in the past three years. Stroke, sometimes associated with long-standing hypertension, has been responsible for 24 deaths in three years. Abortion was identified in 24 deaths from 1969-71, largely caused by septic complications.

Each maternal death is reviewed by a county medical society committee or by the TMA Committee on Maternal Health as a whole. The circumstances surrounding the death are discussed. The cause of death is determined, and avoidability assessed. As can be seen, 34 of the 55 (62%) direct obstetrical deaths were considered to have been avoidable by physician, patient, facility, or a combination of these factors. Delay in diagnosis, inadequate prenatal care, and incomplete therapy in general, characterize the avoidable factors.

El Paso and Bexar counties continue to lead in death rates. Women over 34 years of age are particularly at risk with the rate being five to six times higher for them. Among the unrelated

causes, this is the first year that drug overdosage has been reported. It is unlikely that any of the three deaths were intentional suicides.

The Committee thanks Mr. Don Carroll of the Texas State Department of Health for his assistance in case finding, and also the Texas physicians who are continuing to be most helpful in making their records available.

References

1. Gibbs CE: Committee report on Texas maternal deaths. Texas Medicine 67:37-39 (Aug) 1971.

2. Gibbs CE: Committee report on Texas maternal deaths. Texas Medicine 68:9-10 (Nov) 1972.

C. E. Gibbs, MD, San Antonio, Chairman,
TMA Committee on Maternal Health.

I. LOCATION

Major Metropolitan Areas	Live Births	Deaths	Rate
Bexar County	19,435	12	*5.2/10,000
Dallas County	27,746	8	2.9/10,000
El Paso County	9,269	9	9.6/10,000
Harris County	37,779	15	*2.3/10,000
Tarrant County	13,542	4	*1.5/10,000

Districts (Excluding Above)

	Deaths		Deaths
District 1	0	District 9	4
District 2	3	District 10	2
District 3	1	District 11	0
District 4	2	District 12	7
District 5	2	District 13	1
District 6	13	District 14	4
District 7	1	District 15	6
District 8	5		

*Direct causes only

II. AGE, ETHNIC ORIGIN

Range: 14-44 years
Nonwhite: 29

Under 20 years: 20
Spanish surname: 31

Over 34 years: 27
Other: 39

III. CAUSES

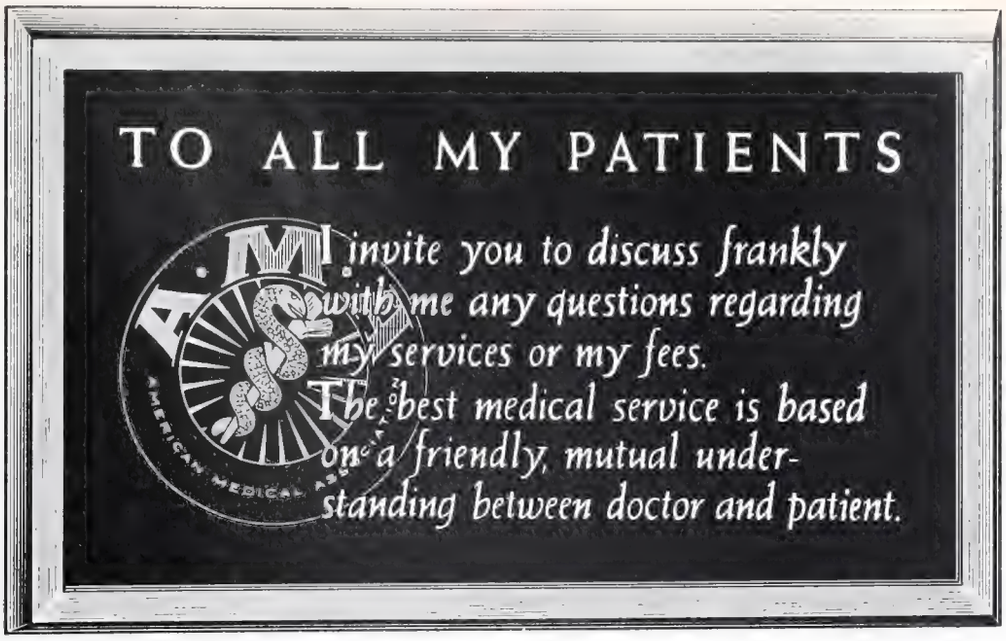
A. Direct Obstetric: 55
- 1. Hemorrhage: 19
  - Ruptured uterus 9
  - Postpartum hemorrhage 4
  - Ectopic 2
  - Abruptio 2
  - Abortion 1
  - Other 1
  - Nonavoidable 3
  - Avoidable 15
    - Physician 9
    - Patient 4
    - Two or more factors 2
    - Avoidability not determined 1
- 2. Toxemia: 11
  - Congestive heart failure 4
  - CVA 6
  - Other (Coagulopathy) 1
  - Nonavoidable 3
  - Avoidable 8
    - Physician 5
    - Patient 1
    - Two or more factors 2
- 3. Infection: 11
  - Abortal 5
  - Antepartum 2
  - Puerperal 4
  - Nonavoidable 3
  - Avoidable 7
    - Physician 4
    - Patient 1
    - Two or more factors 2
    - Avoidability not determined 1
- 4. Amniotic fluid embolus: 6
  - Nonavoidable 6
- 5. Anesthesia: 4
  - Avoidable 4
    - Physician 2
    - Two or more factors 2
- 6. Undetermined: 4
  - Nonavoidable 4

B. Indirect Obstetrical: 24
- 1. Heart Disease: 5
  - Nonavoidable 4
  - Avoidable 1
    - Patient 1
- 2. Vascular Disease: 12
  - CVA 5
  - Embolus 7
  - Nonavoidable 10
  - Avoidable 2
    - Physician 1
    - Two or more factors 1
- 3. Other: 7
  - Pneumonia 2
  - Aplastic anemia 1
  - Ruptured spleen 1
  - Meningitis 1
  - Chronic glomerulonephritis 1
  - Post-transfusion hepatitis 1
  - Nonavoidable 5
  - Avoidable 1
    - Two or more factors 1
    - Avoidability not determined 1

C. Nonrelated: 14
- Accident 4
- Drug overdosage 3
- Other (1 each) 7

D. Undetermined: 6

Total Deaths: 99
Total live births: 228,983
Maternal mortality rate: Direct causes only: 2.4/10,000
Autopsies: 57



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AMA works for all physicians

When I hear some physician state that he doesn't belong to the American Medical Association because it doesn't express his views of the practice of medicine, I am totally amazed. What must he be thinking? A recent poll showed that 73% of the AMA members wanted to retain the basic principles of private practice, ie, freedom of choice, fee for service, and voluntarism, and that about 70% of the nonmembers wanted the same thing. The percentage who wished to resist any form of government health plan, except that limited to medical care for the poor, was almost exactly the same between members and nonmembers. Also, almost identical numbers of each group did not wish to state a position, or had not decided on the issues.

The AMA does represent the physicians of Texas, just as the Congress of the United States represents every citizen of the United States. Naturally, no one agrees with every policy of any governing organization; however, this is no reason to stay outside of an organization rather than being on the inside where policy could be influenced.

Last year the AMA Education and Research Foundation gave almost $1 million to the nation's medical schools. Approximately $22,000 of this went to the schools in Texas. During its 22-year history, the AMA-ERF has donated almost $24 million to medical schools, and has provided more than 48,000 loans valued at more than $50 million to medical students, interns, and residents. This is an enviable record of an organization to which any physician should be proud to belong.

If medicine is to continue to be a free profession, all physicians must join forces to express their views in the political, administrative, and legislative processes of this country. The AMA actively works on behalf of its members in legislative matters with Congress and in negotiations with the Administration. It has provided a scientific input in the practitioner's experience in legislation on drug abuse, cancer, heart disease, and communicable diseases.

The opponents of free practice foster the idea that the AMA does not represent the physicians. In splintering the medical profession, the position of unity and strength is lost and smaller organizations are more easily ignored. The AMA members pay the way for all physicians, and the Association works for all physicians; the nonmember is "riding free."

The AMA's voice can only be as strong as all the members of the medical profession want it to be. Together we can more effectively represent ourselves and our views. Let's quit pulling in every direction and all join forces and pull in the same direction for effective representation.

Charles B. Dryden MD.

Charles B. Dryden, MD, President, Texas Medical Association.

Aug 73

Texas Medicine

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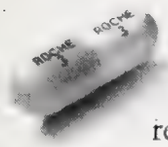

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VOL 69 AUGUST 1973

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PRINTING OFFICES
c/o Stafford-Lowdon Company
1114 West Daggett, Fort Worth 76104

Subscriptions: $3 per year for members; $6 for nonmembers; $8 for foreign; $5 for libraries, hospitals, and universities; $3 for medical students. Single copy: $1.

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The emphasis is on the heart, as are several of the articles in this issue. Of related interest is an article on psychogenic chest pain, which begins on p 41. The articles on cardiac problems are on pp 44, 49, and 57.

NEXT MONTH

In September, articles will be on the Fasanella-Servat operation; management of alleged sexual assault; vaginal approach in resection of low-lying malignant lesions of the rectum; pheochromocytoma simulating toxemia of pregnancy; penetrating wounds of the rectum; Meckel's diverticulum; use of automatic staplers in vaginal hysterectomy, anterior colpoplasty, and posterior colpoperineoplasty; and Harrington instrumentation in the fractured, unstable thoracic and lumbar spine.

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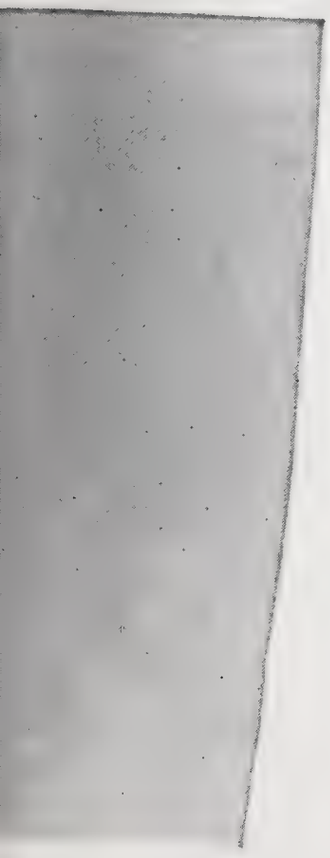

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NEWS

Texas delegation to AMA pursuasive: Sammons reelected; TMA resolutions successful

Exclusion of health insurance coverage for the newborn, professional standards review organizations, legislation placing hospitals under federal labor laws, medical and health care costs, emergency medical services and Phase III price controls were among the subjects which commanded the attention of the TMA delegation at policy sessions of the AMA House of Delegates on June 24-28 in New York.

A well-organized, hard-working Texas delegation posted an impressive record in representing physicians of the state on key issues. The delegation introduced 13 resolutions, all of which were originated by Texas physicians and county medical societies. Not a single Texas resolution was lost.

Action taken on Texas resolutions includes:

Insurance coverage for newborns

The AMA has joined TMA in calling for the eradication of provisions in health insurance policies which exclude newborns from coverage during the first 14 days of life. The resolution, originally presented by the El Paso County Medical Society, emphasized that certain health problems in children are readily identified and best treated in the first days of life.

Repeal of PSRO legislation

Although the TMA House of Delegates agreed in May to begin work on establishing a corporation which could qualify as a Professional Standards Review Organization, it also called for the repeal of the PSRO provision in Public Law 92-603.

Accordingly, Texas delegates to the AMA carried with them a resolution calling for the national association to support the call for the repeal of the PSRO law. The Texas resolution expressed the view that PSROs will result in increases in the cost of medical care, and deterioration of the quality of medical care, and that the law is not in the best interests of the public.

After considering several similar resolutions, the AMA House recognized that "repeal or modification of PSRO legislation ultimately may be required to preserve the high quality of patient care." The House went on record as calling for the AMA to oppose any facets of new

federal laws which will result in the deterioration of quality care. In addition, the House called for the AMA to publicize any such provisions, and to place a high priority on developing amendments to the law which would act to preserve high-quality patient care.

Federal Register regulations

Whenever a federal agency wishes to make a new regulation which will have the force of law, all that is required is that the agency publish the proposed regulation in the *Federal Register*, giving any interested citizen or group the opportunity to comment on the proposed regulation. Sometimes, this time for comment may be as little as 30 days.

This subject was brought before the AMA House by the Texas delegation, which proposed that the AMA urge the introduction of legislation which would extend the time for comment and hearings on items published in the *Federal Register,* thereby giving citizens more ample opportunity to comment upon them.

The AMA House asked the Board of Trustees to make known the association's concern over the matter. The Board has also been directed to take action to obtain more advance notice and opportunity to comment; to disseminate information on proposed regulations to the medical profession; and to seek relief from "arbitrary and unjust regulations which have been promulgated by such government agencies."

Hospitals and labor relations

House Resolution 1236, now being considered by the US Congress, would place nonprofit hospitals under the National Labor Relations Act, and possibly would encourage employees to join unions.

A resolution calling for special features to be placed in the law to minimize strikes and other disruptions in patient care was referred to the AMA Board of Trustees for action.

Phase III price controls

Responding to resolutions from Texas and five other state medical societies, the AMA house directed the association to continue to work by all lawful means to assure nondiscriminatory treatment for physicians under present and future economic stabilization pro-

NEWS

grams. This action was felt to be especially significant in light of the fact that new Phase IV controls were soon to be outlined. (See story p. 10.)

Costs of medical care

Expressing concern that the medical profession is continually criticized about high costs of medical care, poor delivery, inferior quality, and inferior care, the Texas delegation presented two resolutions.

The first, asking that all types of medical facility costs and statistics be made available to physicians and their medical societies, was adopted by the House, which also concurred with the Texas sentiment that information from government facilities should also be made available.

Another Texas resolution adopted by the AMA House instructs the AMA to urge all hospitals to make copies of final patient bills available to their physicians, either routinely or on request. The House also urged physicians to study costs of services in relation to the needs of patients.

Other actions

Another action in which the AMA House responded to the Texas delegation was one on residency training programs in allergy. The matter was referred to the Council on Medical Education. The resolution reiterated support for the new American Board of Allergy and Immunology, and at the same time, asked it to develop programs and essentials for approval to make it possible for physicians in various specialties to be able to pursue training and qualify for board examination and certification in allergy.

A Texas resolution commending the US Army and its helicopter evacuation crews for the Military Assistance to Safety and Traffic Program (MAST), was overwhelmingly adopted.

The House also adopted a Texas resolution calling for the AMA to reiterate its strong, active support for improving emergency medical care. The AMA will ask local health officers to assess the needs for improving emergency medical care services, and provide leadership in communities to develop a better system for improving service.

A resolution submitted by the Grayson County Medical Society called for the AMA to endorse the establishment of a nationwide emergency telephone number 911. This proposal was also adopted by the House.

A resolution calling on the AMA to protest proposed Atomic Energy Commission regulations was also adopted. The proposal would require physicians to notify the patient or a responsible relative of the patient, of incidents involving exposure to more than a certain stated amounts of radiation. The AMA will recommend that sections of the regulation which relate to this matter be deleted.

In addition to the resolutions which it presented, the Texas delegation contributed to several other significant actions and discussions. Included among these were discussions of hospital medical staff responsibilities and accountability for patient care.

SAMMONS reelected

Dr. James H. Sammons of Baytown, TMA past president, was reelected to another three-year term on the AMA Board of Trustees. Dr. Sammons, who presently serves as vice chairman of the board, was unopposed.

AMA offers pamphlets

Three new pamphlets are available from the Department of Community Health of the AMA. They are, "Statement on Free Clinics," Statement on Health Outreach," and "Committee on Health Care of the Poor: Progress Report."

Their publication resulted from wide interest expressed by physicians and others concerned with health care of the poor.

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NEWS

Phase III rules still govern MDs

For the "health care industry," Phase IV wage price controls will be administered under the same rules as Phase III, according to a spokesman for the Austin office of the Economic Stabilization Program.

"Apparently until we hear something different," said IRS spokesman Clarence Vetter, "Phase IV is the same as Phase III." He added that the Health Industry Advisory Committee of the Cost Of Living Council may offer some changes in the rules which might be effective by Oct 1, but noted that this is mere speculation at this time.

So, for physicians, Phase IV will allow price increases of 2.5%, only if there has been a corresponding cost increase. Phase III was essentially the same as Phase II for health care providers with the exception that price posting requirements were lifted.

Although the Nixon Administration has refused to speculate about when Phase IV controls will be lifted, the *Wall Street Journal* reports that decontrol will come on an industry-by-industry basis.

Food and health industries were subject to Phase IV controls immediately upon announcement July 19; for other industries, controls were to become effective Aug. 12.

Texas MDs win awards for scientific exhibits

Several Texas physicians were among those to receive awards for exhibits at the AMA Annual Convention held in New York City in June.

This year's Billings Gold Medal winner is "Echocardiography: An Aid in Cardiac Diagnosis" by Dr. James C. Wright, Dr. Francisco A. Neal, and Dr. Milton R. Hejtmancik, University of Texas Medical Branch, Galveston. The exhibit summarizes four years of experience in echocardiography.

Billings gold, silver, and bronze medals are awarded for exhibits which do not exemplify purely experimental studies. Exhibits are judged on the basis of the contribution to medicine, and excellence of correlation of facts and presentation.

Other award winners included federal and military medicine, certificate of merit honorable mention to Maj. Donald C. Gasaway, MD, USAF, Air Force School of Aerospace Medicine, Brooks Air Force Base, Tex, for "Hearing Conservation Audiometry"; radiology, certificate of merit to Dr. Sidney Wallace, James H. Anderson, PhD, and Dr. Cesare Gianturco, University of Texas Medical School at Houston, M. D. Anderson Hospital and Tumor Institute, Houston, for "Vessels, Clots,Wires and Catheters"; and urology, certificate of merit honorable mention to Dr. F. Brantley Scott, Dr. William Bradley, and Dr. Gerald Timm, St. Luke's Episcopal Hospital and Baylor University College of Medicine, Houston, and the University of Minnesota, for "Treatment of Incontinence with an Implantable Artificial Urinary Sphincter."

Southwestern computer to match kidneys, recipients in 3 states

A new easy-to-use computer system which matches available kidneys to persons requiring kidney transplants has been developed at The University of Texas Health Science Center at Dallas for use in Texas, Oklahoma and Arkansas.

The on-line, computer-based renal matching system, called RENTRAN, was developed by the Medical Computing Resources Center at UTHSCD under the direction of Dr. David J. Mishelevich in collaboration with the Tissue Typing Laboratory and the Southwest Kidney Transplant Center, directed by Dr. Peter Stastny, a Veterans Administration researcher and Southwestern associate professor.

According to Dr. Stastny, representatives from the three states to the Southwest Kidney Transplant Center approved the implementation of

RENTRAN at a recent meeting in Dallas. RENTRAN was developed with financial support from the Renal Program of the Texas Regional Medical Program.

Computer terminals are to be installed in Austin, Dallas, Galveston, Houston, Little Rock, Oklahoma City, and San Antonio from which one will be able to interact with the data bank located on the DECsystem-10 computer in the Medical Computing Resources Center.

Dr. Mishelevich stated that "we have attempted to develop an interactive system for health professionals with no previous computer experience."

RENTRAN provides a computer file of potential recipients which will be available to the eight medical centers 24 hours a day. Should a kidney become available in the region the data bank may be searched from a remote terminal any time for the best recipients for any given kidney. In turn, the center with the kidney will notify the hospital where the potential recipient is located that a possible donor is available. To date, RENTRAN has performed a match on a request from Houston prior to full implementation, said Dr. Mishelevich.

Dr. Stastny is conducting a study to determine the effectiveness of a relatively new type of recipient-donor matching system involving HL-A antigens. Named for "Human Histocompatibility Locus-A" the HL-A system involves immunity reactions of about 30 possible known factors of which each individual has a maximum of four. In RENTRAN, up to four factors, along with the blood type are stored in the data bank for each person who needs a kidney.

Dr. Joseph M. White, dean of medicine at the UT Medical Branch in Galveston, presents the Texas Medicine Award for excellence in scientific writing to first-place winner E. S. Shoemaker, above, and second-place winner Michael H. Malloy, below, at Honors Convocation ceremonies in Galveston. The two award-winning papers will be published in the September issue of *Texas Medicine*.

Pharmacists stop dispensing some amphetamines

US pharmacists have been ordered to stop dispensing any drug which contains amphetamine or dextroamphetamine or their salts in combination with any other drug. In addition, the Food and Drug Administration has ordered pharmacists to pull all parenteral amphetamine preparations and all levamfetamines off the shelves. Oral amphetamines, dextroamphetamines, or their salts alone or in combination with each other, are not affected by the order.

The FDA offered three reasons for the order. First, the agency says that the combinations of amphetamines, dextroamphetamines or their salts with other drugs were not found to differ either in efficacy or in the incidence of adverse side effects from the anorectic drugs alone. Second, the FDA says that the benefit-to-risk ratio is unfavorable for parenteral amphetamines. Third, the FDA states that it "has not received substantial evidence of effectiveness that levamphetamine preparations currently on the market are safe and effective for the treatment of obesity."

What's on your patient's face...

may be more important than his chief complaint

Patient P.T.* seen on 3/29/67 shows typical lesions of moderately severe keratoses. Note residual scarring on ridge of nose from previous cryosurgical and electrosurgical procedures.

Patient P.T.* seen on 6/12/67, seven weeks after discontinuation of 5% FU cream. Reaction has subsided. Residual scarring not seen except that due to prior surgery. Inflammation has cleared and face is clear of keratotic lesions.

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The lesions on his face are solar/actinic— so-called "senile" keratoses... and they may be premalignant.

Solar, actinic or senile keratoses

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Precautions: If applied with fingers, wash hands immediately. Apply with care near eyes, nose and mouth. Lesions failing to respond or recurring should be biopsied.

Adverse Reactions: Local—pain, pruritus, hyperpigmentation and burning at application site most frequent; also dermatitis, scarring, soreness and tenderness. Also reported—insomnia, stomatitis, suppuration, scaling, swelling, irritability, medicinal taste, photosensitivity, lacrimation, leukocytosis, thrombocytopenia, toxic granulation and eosinophilia.

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NEWS

Dr. White to leave Medical Branch

Dr. Joseph M. White, dean of medicine at The University of Texas Medical Branch at Galveston since 1968, has accepted the position of Provost for Health Affairs and Executive Director of the Medical Center at the University of Missouri School of Medicine at Columbia. His resignation from UTMB will be effective Oct 1.

Dr. White's responsibilities at Missouri will include the medical school, school of nursing, allied health schools, and the school of veterinary medicine.

Commenting on Dr. White's new position, UTMB President Truman G. Blocker said, "During his tenure here, Dr. White has been responsible for far-reaching changes in the teaching curriculum and has played a large part in the rapid growth in faculty and student enrollment and planning for the future. Dr. White is widely recognized as an outstanding medical educator and richly deserves this promotion."

Dr. White, an anesthesiologist, was associate director of the University of Oklahoma Medical Center and dean of the medical faculty before he joined UTMB.

Dr. Blocker said that, after Oct 1, Dr. White will act as consultant to Dr. Edward N. Brandt, who will assume the position of acting dean of the medical school.

Texas Project MEDIHC enters fourth year

Since March 1970, more than 2,200 applications have been received by Texas Project MEDIHC from military separatees wishing to pursue civilian health careers in Texas. Headquarters is located at the School of Public Health at The University of Texas at Houston Health Sciences Center.

Transition counselors at military bases contribute to the program's success by referring applicants and cooperating in arranging for preseparation transitional experience for the medics. Also, many applicants are referred by the Texas Employment Commission. Following establishment of the first State MEDIHC office in Texas, March 1970, each State has developed a MEDIHC office.

A Task Force composed of representatives of the State's health, education, and labor agencies has been of inestimable value in making Texas' MEDIHC Project successful. Meetings of the Task Force concentrate in open forum on problems of military separatees and often deliberate issues of even broader significance and consequence. The Texas Medical Association's representative on the Task Force is Dr. Marjorie Peschel, Fort Worth, chairman of TMA's Committee on Health Careers.

Counselors for the Texas Project are located in Houston, and with the cooperation of the Department of Defense on military bases, in San Antonio, Dallas-Fort Worth area, and El Paso.

The counselors maintain current information on job and educational opportunities for separating medics. Instances of barriers and constraints interposed on the separatees by employment customs and regulations are noted and referred to appropriate members of the Task Force. Such intervention regarding employment has resulted in some improved consideration of separated medics. Constraints interposed on medics who wish to continue education to prepare for careers in civilian health occupations appear in the form of uncompromising rules of educational institutions regarding matriculation with or without opportunity to acquire advanced standing.

Since March 1970, a few male medics have been admitted to nursing schools in Texas; medics of one highly experienced category have been declared eligible to take some State RN and LVN Board examinations; DOD has initiated changes in its education and training of medics toward the goal of providing its product at separ-

ation after some 4-6 years in the military with credentials consistent with the civilian employment/education situation.

JCAH schedules Fall '73 TAP Institutes

The Joint Commission on Accreditation of Hospitals (JCAH) has announced the Fall 1973 schedule of its "TAP Institutes."

The TAP Institutes, sponsored by state medical and hospital associations, were designed by JCAH to meet the growing educational and informational needs of hospital trustees, administrators and physicians; hence the "TAP" designation.

Dates and locations for the Fall TAP Institutes are: Sept 7-9, Harrisburg, Pa; Sept 14-16, Buffalo, NY; Sept 21-23, Madison, Wisc; Sept 28-30, French Lick, Ind; Oct 12-14, Cherry Hill, NJ; Oct 19-21, Houston; Oct 26-28, Dallas; Nov 2-4, Augusta, Me; Nov 9-11, Bismarck, ND; Nov 16-18, Birmingham, Ala; Nov 30-Dec 2, San Diego, Calif; and Dec 7-9, Phoenix, Ariz.

Charles M. Jacobs, director of the Joint Commission's Professional Education Program says, "Hospitals need to measure and document the quality of care they deliver and TAP Institutes provide the mechanisms for carrying out such internal quality assurance plans. Since JCAH accreditation standards call for medical care evaluation programs in the hospital, we feel we must provide the help and the tools necessary."

According to Jacobs, the Institutes present information on medical care audit procedures, systems for delineating and granting of clinical privileges, and utilization review. Also reviewed are the legal obligations of hospitals in these areas.

The Texas Medical Association and Texas Hospital Association will cosponsor the meeting in Houston at the Sheraton-Lincoln Hotel, Oct 19-21; and the meeting in Dallas at the Sheraton-Dallas, Oct 26-28.

Dr. Nelida Martin wins 3rd annual Pap Smear Award

Dr. Martin

Dr. Nelida Martin, graduating intern at R. E. Thomason General Hospital in El Paso, is the winner of the Third Annual Pap Smear Award presented by the hospital and the El Paso Unit of the American Cancer Society.

The award was begun in 1971 by the Obstetrics and Gynecology Department at the hospital, and is given to the intern who does the most pap smears during his or her internship. The totals do not include pap smears taken while the intern is on service in the Ob-Gyn Department or the Family Planning Clinic.

The practice was started in order to stimulate new physicians to routinely perform the test which Thomason physicians feel should be as routine as a urinalysis or blood count for any female.

Dr. Harold M. Jesurun, clinical director of the Ob-Gyn Department, says that the project has increased the rate of detection of cervical carcinoma at the hospital. In addition, he says, more cases of carcinoma in situ are being brought to the attention of physicians.

Aquamedics are 'hydro-space doctors'

The Aquamedics, a team of physicians skilled in dealing with medical problems related to the water, has added a new dimension to its activities. In addition to providing rescue and emergency medical care for hazardous water sport activities, the Aquamedics will now serve as a medical support team for undersea activities conducted by the Marine Biomedical Institute of The University of Texas Medical Branch.

The new role of the physician divers comes with the recent announcement by Dr. Stewart Wolf, MBI director, that the Marine Biomedical Institute has assumed sponsorship of the Aquamedics.

NEWS

"We are hoping to develop what you might call 'hydro-space doctors'—physicians specially trained to deal with problems arising out of man's adaptation to the ocean," says Dr. Wolf.

"This Galveston medical center is the only medical school in the United States that is located on water; therefore, it is altogether appropriate for us to include in the educational objectives of the Marine Biomedical Institute the development of people who are capable of providing medical care to diving casualties. The Aquamedics will become a vital part of our marine exploration efforts."

Originally Aquamedics was a volunteer organization, composed of area citizens, many of whom had no medical training. The group, which was organized in 1968 by Dr. Charles Moore of the UTMB Department of Surgery, became an adjunct activity of UTMB's emergency care facility two years ago. Dr. H. G. Love, Jr., medical director, Emergency Services and faculty member of the Department of Surgery, assumed leadership of the team at that time and began reorganizing the Aquamedics into a highly skilled team of medical professionals from UTMB.

The team has provided medical coverage for the powerboat races sponsored by civic leaders in Galveston and has provided rescue and resuscitation procedures at sanctioned hazardous aquatic events throughout Texas.

Under the sponsorship of MBI, classes will now be offered to medical personnel on campus who are interested in joining the group. A formal diving course, sanctioned by the National Association of Underwater Instructors, is being taught by Denny Bowman, dive operations officer for the MBI, and Ken Yoakum, his assistant.

"It is very important the Aquamedic know how to dive, even if he never has the occasion to dive. The training that these physicians receive will help them to better understand and treat a diving victim," says Dr. Love, who is both a certified SCUBA diver and certified diving physician.

Along with diving skills, members of the Aquamedics will also have an expertise in handling emergencies unique to the marine environment. Knowledge of aquatic medicine and hyperbaric medicine will be an important part of this highly specialized unit. The MBI is presently building a hyperbaric laboratory on the Medical Branch campus. It will be equipped with pressure chambers that can handle deep diving emergencies as they occur with sport or commercial divers anywhere in the Gulf.

Those who complete the training and qualify for the Aquamedics will accompany members of the MBI on monthly dives to the Flower Gardens Coral Reef in the Gulf of Mexico. Two physician-divers join the marine scientists on each of the week-long expeditions to provide immediate emergency medical aid, should the need arise. The ship being used, "Miss Freeport," has on board a decompression chamber and is fully equipped for routine decompression after deep dives or for any medical emergency that might arise.

"We have 14 members in the Aquamedics," says Dr. Love, "but to provide medical support to the dive missions more and more Aquamedics are needed."

Dr. Love believes that eventually the program will be incorporated into the curriculum of the Medical Branch. "Our hyperbaric facilities on the UTMB campus will be used in a training program in hyperbaric medicine and work with compressed air could be included as an elective for medical students. In this way the specialty of aquatic and hyperbaric medicine can be implanted into the medical school and residency training curriculum."

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Departing on December 21, 1973 from Dallas and Houston

Departing on December 22, 1973 from Dallas and San Antonio

Aloha Carnival is a personalized luxury, totally adaptable to your vacation mood and your vacation style. There are a million things to do in the enchanted islands, where you'll find American opulence, Asian mystique and Polynesian tranquillity all rolled into one. Take a morning's cruise to Pearl Harbor. Honolulu is fun and unusual, a resort with some of the most beautiful beaches in the world, big surf, sun . . . and a city, complete with museums, an aquarium, a fascinating zoo, a cultural center, and night places galore! Whatever you do, your days are your own, like they should be. This is the way to do Hawaii! You'll spend 7 nights at the new Hawaiian Regent Hotel in Waikiki Beach, built by AITS to fit the needs of the Carnival Vacationer.

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Enclosed please find $_____as deposit ☐ as payment in full ☐ for_____ number of persons. Make check or money order payable to: **ALOHA CARNIVAL** **$493.90** per person double occupancy, **$100** minimum deposit per person. Final payment due 35 days before departure. Please print and if more than one couple, attach a separate list with complete information as below.

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☐ Single occupancy (if individual, and not a single, name of person sharing room) _____

Return this reservation immediately to assure space. Rates based on double occupancy. Single rates $75 additional. Rates on children under 12 sharing room with parents $50 less. Although flights are usually non-stop, it may be necessary to schedule one stop enroute. Tour prices are based on rates and tariffs in effect as of the date printed herein. AITS reserves the right to adjust tour prices in the event of rate and tariff changes over which it has no control.

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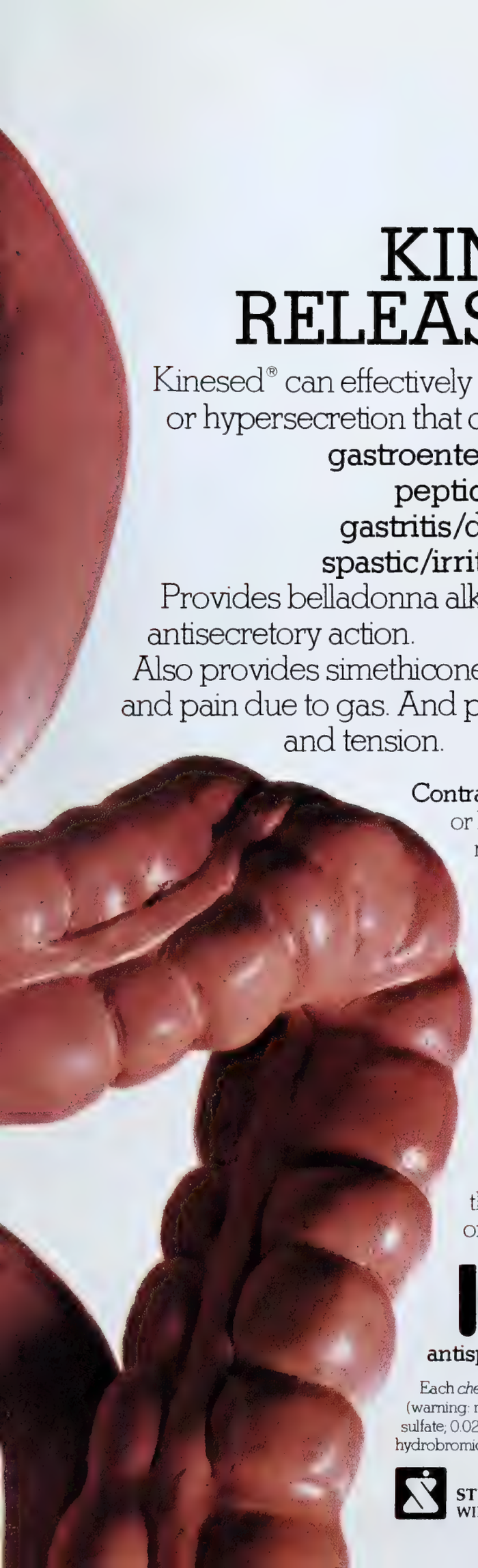
IS ON...



KINESED®
RELEASES SPASM

Kinesed® can effectively counteract the spasm, hypermotility or hypersecretion that often occurs in:

gastroenteritis/colitis
peptic ulcer
gastritis/duodenitis
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Provides belladonna alkaloids for potent antispasmodic and antisecretory action.

Also provides simethicone for accompanying distention and pain due to gas. And phenobarbital—for associated anxiety and tension.

Contraindications: Hypersensitivity to barbiturates or belladonna alkaloids, glaucoma, advanced renal or hepatic disease.

Precautions: Administer with caution to patients with incipient glaucoma, bladder neck obstruction or urinary bladder atony. Prolonged use of barbiturates may be habit-forming.

Side effects: Blurred vision, dry mouth, dysuria, and other atropine-like side effects may occur at high doses, but are only rarely noted at recommended dosages.

Dosage: *Adults:* One or two tablets three or four times daily. Dosage can be adjusted depending on diagnosis and severity of symptoms.

Children 2 to 12 years: One-half or one tablet three or four times daily. Tablets may be chewed or swallowed with liquids.

KINESED®

antispasmodic/sedative/antiflatulent

Each *chewable tablet* contains: 16 mg. phenobarbital (warning: may be habit-forming); 0.1 mg. hyoscyamine sulfate; 0.02 mg. atropine sulfate; 0.007 mg. scopolamine hydrobromide; 40 mg. simethicone

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Must vasodilators and therapy for other diseases come into conflict?

not if the vasodilator is

VASODILAN®
(ISOXSUPRINE HCl)

the compatible vasodilator... no treatment conflicts reported

The cerebral or peripheral vascular disease patient often has coexisting disease[1] which calls for another drug along with his vasodilator. It may be a hypoglycemic, miotic, antihypertensive, diuretic, anticoagulant, corticosteroid, or coronary vasodilator.

Vasodilan is not incompatible with any of these drugs—no treatment conflict has been reported. And, unlike other vasodilators, Vasodilan has not been reported to affect carbohydrate metabolism, liver function, or intraocular pressure—or to complicate treatment of diabetes, hypertension, peptic ulcer, glaucoma, or liver disease.

In fact, there are no known contraindications to the use of Vasodilan in recommended oral doses, other than that it should not be given in the presence of frank arterial bleeding or immediately postpartum.

1. Gertler, M. M., et al.: Geriatrics *25*:134-148 (May) 1970.

Indications: Based on a review of this drug by the National Academy of Sciences-National Research Council and/or other information, the FDA has classified the indications as follows:

Possibly Effective:

1. For the relief of symptoms associated with cerebral vascular insufficiency.
2. In peripheral vascular disease of arteriosclerosis obliterans, thromboangiitis obliterans (Buerger's Disease) and Raynaud's disease.
3. Threatened abortion.

Final classification of the less-than-effective indications requires further investigation.

Composition: Vasodilan tablets, isoxsuprine HCl, 10 mg. and 20 mg.

Dosage and Administration: 10 to 20 mg. three or four times daily.

Contraindications and Cautions: There are no known contraindications to oral use when administered in recommended doses. Should not be given immediately postpartum or in the presence of arterial bleeding.

Adverse Reactions: On rare occasions, oral administration of the drug has been associated in time with the occurrence of severe rash. When rash appears, the drug should be discontinued. Occasional overdosage effects such as transient palpitation or dizziness are usually controlled by reducing the dose.

Supplied: Tablets, 10 mg.—bottles of 100, 1000, 5000 and Unit Dose; 20 mg.—bottles of 100, 500 and Unit Dose.

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Mead Johnson LABORATORIES

IN ASTHMA
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optional therapy

THE mudranes®

All Mudranes are bronchodilator-mucolytic in action, and are indicated for symptomatic relief of bronchial asthma, emphysema, bronchiectasis and chronic bronchitis. **MUDRANE tablets** contain 195 mg. potassium iodide; 130 mg. aminophylline; 21 mg. phenobarbital (Warning: may be habit-forming); 16 mg. ephedrine HCl. **Dosage** is one tablet with full glass of water, 3 or 4 times a day. **Precautions** are those for aminophylline-phenobarbital-ephedrine combinations. **Iodide side-effects:** May cause nausea. Very long use may cause goiter. Discontinue if symptoms of iodism develop. **Iodide contraindications:** Tuberculosis; pregnancy (to protect the fetus against possible depression of thyroid activity). **MUDRANE-2 tablets** contain 195 mg. potassium iodide; 130 mg. aminophylline. **Dosage** is one tablet with full glass of water, 3 or 4 times a day. **Precautions** are those for aminophylline. **Iodide side-effects and contraindications are listed above. MUDRANE GG tablets** contain 100 mg. glyceryl guaiacolate; 130 mg. aminophylline; 21 mg. phenobarbital (Warning: may be habit-forming); 16 mg. ephedrine HCl. **Dosage** is one tablet with full glass of water, 3 or 4 times a day. **Precautions** are those for aminophylline-phenobarbital-ephedrine combinations. **MUDRANE GG-2 tablets** contain 100 mg. glyceryl guaiacolate; 130 mg. aminophylline. **Dosage** is one tablet with full glass of water, 3 or 4 times a day. **Precautions:** Those for aminophylline. **MUDRANE GG Elixir.** Each teaspoonful (5 cc) contains 26 mg. glyceryl guaiacolate; 20 mg. theophylline; 5.4 mg. phenobarbital (Warning: may be habit-forming); 4 mg. ephedrine HCl. **Dosage:** Children, 1 cc for each 10 lbs. of body weight; one teaspoonful (5 cc) for a 50 lb. child. Dose may be repeated 3 or 4 times a day. Adult, one tablespoonful, 4 times daily. All doses should be followed with ½ to full glass of water. **Precautions:** See those listed above for Mudrane GG tablets.

MUDRANE—original formula

First choice

MUDRANE-2

When ephedrine is too exciting or is contraindicated

MUDRANE GG

During pregnancy or when K.I. is contraindicated or not tolerated

MUDRANE GG-2

A counterpart for Mudrane-2

MUDRANE GG ELIXIR

For pediatric use or where liquids are preferred

Clinical specimens available to physicians.

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Manufacturers of Ethical Pharmaceuticals

NEWS

TMA Library provides free films for members

One of the many services provided to TMA members by the Memorial Library is free film, slide, and cassette service. The Library has recently received several films which are now available for loans.

In order to borrow a film, any TMA member may write the Film Librarian, TMA Memorial Library, 1801 N. Lamar Blvd, Austin 78701, stating the film he or she wishes to borrow and the requested dates. Some of the most recent films which are available for use by members include:

"Venous Cutdown," color, 12 minutes, 1972; "Endotracheal Intubation," color, 12 minutes, 1972; "Tracheostomy," color, 12 minutes, 1972; "Lumbar Puncture," color, 12 minutes, 1972; "Arterial Puncture," color, 12 minutes, 1972; "Central Venous Pressure Measurement," color, 12 minutes, 1972.

Also, "Modern Obstetrics: Pre-Eclampsia, Eclampsia," color, 30 minutes, 1972; "Thyroid Disease as a Late Sequela of Radioactive Fallout, color, 32 minutes, 1972; "Testicular Torsion," color, 15 minutes, 1972; "Surgical Treatment of Coronary Heart Disease," color, 15 minutes, 1972; "Diagnostic Application of Cine Coronary Arteriography," color, 16 minutes, 1972; "Vasectomy," color, 20 minutes, 1971.

Also, "Reflux in Duplicated Ureters: Modern Surgical Techniques," color, 18 minutes, 1971; "Ileal Conduit Urinary Diversion," color, 20 minutes, 1971; "Aldosterone and Essential Hypertension," color, 25 minutes, 1972; "Aldosterone and Edema," color, 25 minutes, 1972; and "Total Knee Replacement," color, 30 minutes, 1972.

Lay films which are available include: "Life from a Stranger," color, 15 minutes, 1971; "School of Allied Health—The University of Texas-Galveston," color, 9 minutes, 1972; and "Formula Preparation," color, 10 minutes, 1972.

Slides and cassettes include: "The Cannibal Stomach, Part I"; "Diseases of the Adrenal Cortex"; "The Geriatric Aid"; and "Medical Economics."

New name is American Lung Association of Texas

The Texas Tuberculosis and Respiratory Disease Association has changed its name to American Lung Association of Texas. The change follows the renaming of the American Lung Association earlier this year. According to Pauline K. Matthis, managing director of American Lung Association of Texas, "The shortened name brings the aims and objectives of our Christmas Seal-supported organization into sharper focus and more clearly relates to our primary goal—the prevention and control of lung disease."

Baylor gets department of cell biophysics

Dr. Arnold Schwartz, director of the division of myocardial biology, has been appointed chairman of a newly-created department of cell biophysics at Baylor College of Medicine.

The new department will teach and conduct research in the cellular and molecular aspects of cardiovascular disease including nerve and kidney functions which influence or control the action of heart and blood vessels, and investigate the nature of high blood pressure.

The transport of elements such as calcium across membranes and the control of its movement in both healthy and diseased tissue may hold the keys to many aspects of heart disease and will continue to be investigated, according to Dr. Schwartz.

"In every cell process involving stimulation, calcium represents a vital coupling or 'bridge' link," Dr. Schwartz explained. "For example, an electrical impulse (shown as the well-known EKG) always precedes the contraction of any muscle, and cal-

cium is the 'coupler' between the electric impulse and the contraction." The effects of such drugs as digitalis on the transport system will continue to be studied by the new department's faculty.

The cell biophysics staff is now preparing a new teaching program for the college in cooperation with other concerned departments. The goal will be to provide medical students with experience in both basic and clinical areas of this field. It is planned to insert the new materials into the college curriculum.

The department will also offer graduate instruction with electives for interns and residents, expanding upon a two-quarter course in the biology of cardiac muscle cells now offered to both medical and graduate students.

Space for the new department will be provided in the Brown-Fondren Cardiovascular Research and Training Center of The Methodist Hospital where Dr. Schwartz directs the hospital's division of myocardial biology. The division is a component of the cardiovascular center which is headed by Dr. DeBakey.

Commenting on his new department, Dr. Schwartz said, "About 12 other medical schools in the country have biophysics departments, but Baylor's new facility is the first such department in the nation to be organized around the study of cells."

A professor of pharmacology, Dr. Schwartz has headed Baylor's division of myocardial biology since 1969. He will continue to head that division as a unit in the new department.

Dr. Estabrook heads grad school

Dr. Ronald W. Estabrook, well-known authority on drug metabolism, was selected dean of The University of Texas Graduate School of Biomedical Sciences June 1.

The graduate school is one of three units of The University of Texas Health Science Center at Dallas, and its more than 85 students are taught by faculty of Southwestern Medical School.

Dr. Estabrook is also holder of the Virginia Lazenby O'Hara Chair of Biochemistry and chairman of the Department of Biochemistry at Southwestern.

UT med schools report keen competition for admission

Even though there are more places for students in medical schools in Texas than ever before, competition for admission remains keen.

The University of Texas, for example, has a new high of 523 places in its 4 medical schools. Applicants for admission this fall number 2,260.

Successful applicants this fall have achieved about a 3.47 scholastic average for their pre-medical studies. They also have posted an average score of 580 on the Medical College Admissions Test.

UNIT VALUES FOR TMA MEMBERS RETIREMENT PLAN AND TRUST

(As a service to participants in the TMA Members Retirement Plan and to physicians interested in enrolling in the program, comparative values for investments are listed. Figures shown are the latest available at press deadline and are for comparison purposes only. Most daily newspapers list up-to-the-minute values on mutual funds.)

Investment media	Original price 9-30-68	Net asset value per share 6-30-73	Net asset value per share 6-30-73*
Mercantile National Bank Stock Fund	$10.25	$10.53	$10.53
Loomis-Sayles Capital Development Fund	14.20	12.41	14.44
T. Rowe Price Growth Stock Fund	25.93	12.77	14.75
Loomis-Sayles Mutual Fund	16.82	14.39	18.75
Stein Roe & Farnham Balanced Fund	23.34	20.71	27.52
Mercantile Bank Fixed Income Fund	10.00	11.67	11.67

***Adjusted to include dividends and distributions since 9-30-68.**

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- - - A specialized clinic dedicated to the physical, mental, and spiritual treatment of men and women suffering from alcoholic and similar disturbances.

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PROLOID® (thyroglobulin)
Caution: Federal law prohibits dispensing without prescription.

Description. Proloid (thyroglobulin) is obtained from a purified extract of frozen hog thyroid. It contains the known calorigenically active components, Sodium Levothyroxine (T_4) and Sodium Liothyronine (T_3). Proloid (thyroglobulin) conforms to the primary USP specifications for desiccated thyroid—for iodine based on chemical assay—and is also biologically assayed and standardized in animals.

Chromatographic analysis to standardize the Sodium Levothyroxine and Sodium Liothyronine content of Proloid (thyroglobulin) is routinely employed.

The ratio of T_4 and T_3 in Proloid (thyroglobulin is approximately 2.5 to 1.

Proloid (thyroglobulin) is stable when stored at usual room temperature.

Indications. Proloid (thyroglobulin) is thyroid replacement therapy for conditions of inadequate endogenous thyroid production: e.g., cretinism and myxedema. Replacement therapy will be effective only in manifestations of hypothyroidism.

In simple (nontoxic) goiter, Proloid (thyroglobulin) may be tried therapeutically, in nonemergency situations, in an attempt to reduce the size of such goiters.

Contraindication. Thyroid preparations are contraindicated in the presence of uncorrected adrenal insufficiency.

Warnings. Thyroglobulin should not be used in the presence of cardiovascular disease unless thyroid-replacement therapy is clearly indicated. If the latter exists, low doses should be instituted beginning at 0.5 to 1.0 grain (32 to 64 mg) and increased by the same amount in increments at two-week intervals. This demands careful clinical judgment.

Morphologic hypogonadism and nephroses should be ruled out before the drug is administered. If hypopituitarism is present, the adrenal deficiency must be corrected prior to starting the drug.

Myxedematous patients are very sensitive to thyroid and dosage should be started at a very low level and increased gradually.

Precaution. As with all thyroid preparations this drug will alter results of thyroid function tests.

Adverse Reactions. Overdosage or too rapid increase in dosage may result in signs and symptoms of hyperthyroidism, such as menstrual irregularities, nervousness, cardiac arrhythmias, and angina pectoris.

Dosage and Administration. Optimal dosage is usually determined by the patient's clinical response. Confirmatory tests include BMR, T_3 ^{131}I resin sponge uptake, T_3 ^{131}I red cell uptake, Thyro Binding Index (TBI), and Achilles Tendon Reflex Test. Clinical experience has shown that a normal PBI (3.5-8 mcg/100 ml) will be obtained in patients made clinically euthyroid when the content of T_4 and T_3 is adequate. Dosage should be started in small amounts and increased gradually with increments at intervals of one to two weeks. Usual maintenance dose is 0.5 to 3.0 grains (32 to 190 mg) daily.

Overdosage Symptoms. Headache, instability, nervousness, sweating, tachycardia, with unusual bowel motility. Angina pectoris or congestive heart failure may be induced or aggravated. Shock may develop. Massive overdosage may result in symptoms resembling thyroid storm. Chronic excessive dosage will produce the signs and symptoms of hyperthyroidism.

(Treatment: In shock, supportive measures should be utilized. Treatment of unrecognized adrenal insufficiency should be considered.)

How Supplied. ¼ grain; ½ grain; scored 1 grain; 1½ grain; scored 2 grain; 3 grain; and scored 5 grain tablets, in bottles of 100 and 1000.

Full information available on request.

WARNER/CHILCOTT
Division, Warner-Lambert Company
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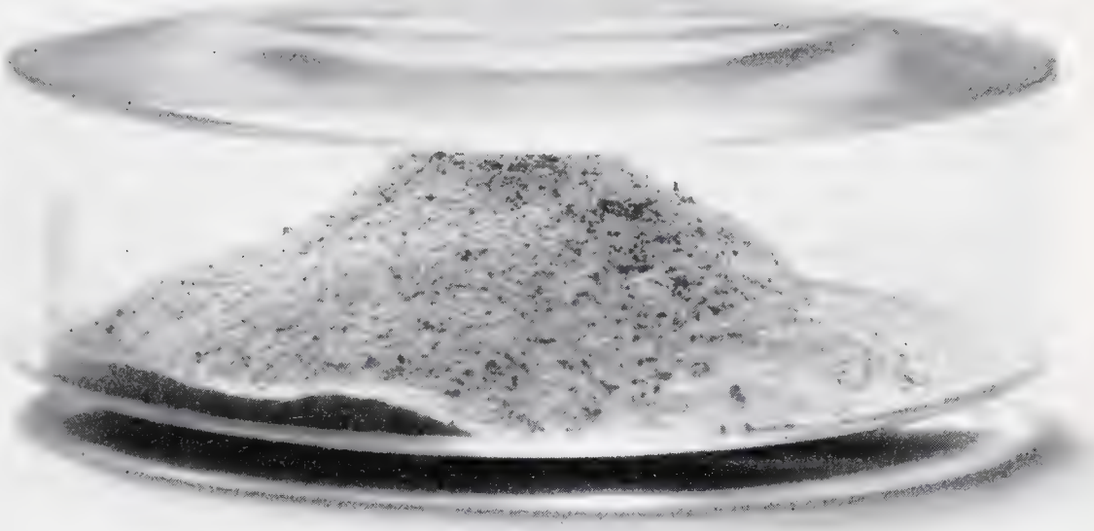
PR-GP-31-B/W

IN NATURAL THYROID THERAPY:

ARE PATIENTS GETTING THE POTENCY YOU PRESCRIBE?



Unlike U.S.P. desiccated thyroid, Proloid® (thyroglobulin) offers the assurance of constant potency.

To begin with, Proloid is uniquely purified. The thyroglobulin extracted from hog thyroid is devoid of any glandular debris.

Then, Proloid is chemically and biologically assayed to assure consistent metabolic activity from batch to batch. The T_4 and T_3 content of every dose is blended for optimal thyroid replacement.

Important, too, is the fact that Proloid is invariably "fresh" when your patients take it. Under proper storage conditions, its potency will not diminish for at least four years.

All of which adds up to this: the potency of Proloid is constant...for more consistent results.

PROLOID®
(thyroglobulin)

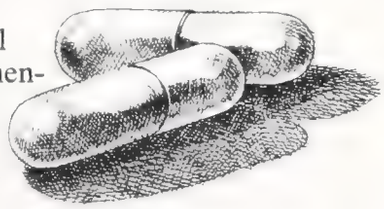
natural thyroid therapy that leaves nothing to chance

Because you practice medicine in the Lone Star State...

You carry one of the heaviest patient loads in the country. Since this may include a number of patients with gastritis and duodenitis... you should know more about Librax®

Helps reduce anxiety-related G.I. symptoms

A patient may blame his attacks of gastritis or duodenitis on "something he ate" but contributing factors may be his job, marital problems, financial worries or some other unmentioned source of stress and excessive anxiety that exacerbated the condition. Whether it is "something he ate" or "something eating him," adjunctive Librax can help. Librax offers both the antianxiety action of Librium® (chlordiazepoxide HCl), that can help relieve excessive anxiety, and the dependable anticholinergic action of Quarzan® (clidinium Br), that can help reduce gastrointestinal hypermotility and hypersecretion.



Patient-oriented dosage – up to 8 capsules daily in divided doses

For optimal response, dosage can be adjusted to suit patient needs—1 or 2 capsules, 3 or 4 times a day.

To help relieve anxiety-linked symptoms in gastritis and duodenitis

adjunctive

Librax®

ROCHE

Each capsule contains 5 mg chlordiazepoxide HCl and 2.5 mg clidinium Br.

Before prescribing, please consult complete product information, a summary of which follows:

Contraindications: Patients with glaucoma; prostatic hypertrophy and benign bladder neck obstruction; known hypersensitivity to chlordiazepoxide hydrochloride and/or clidinium bromide.

Warnings: Caution patients about possible combined effects with alcohol and other CNS depressants. As with all CNS-acting drugs, caution patients against hazardous occupations requiring complete mental alertness (*e.g.*, operating machinery, driving). Though physical and psychological dependence have rarely been reported on recommended doses, use caution in administering Librium (chlordiazepoxide hydrochloride) to known addiction-prone individuals or those who might increase dosage; withdrawal symptoms (including convulsions), following discontinuation of the drug and similar to those seen with barbiturates, have been reported. Use of any drug in pregnancy, lactation, or in women of childbearing age requires that its potential benefits be weighed against its possible hazards. As with all anticholinergic drugs, an inhibiting effect on lactation may occur.

Precautions: In elderly and debilitated, limit dosage to smallest effective amount to preclude development of ataxia, oversedation or confusion (not more than two capsules per day initially; increase gradually as needed and tolerated). Though generally not recommended, if combination therapy with other psychotropics seems indicated, carefully consider individual pharmacologic effects, particularly in use of potentiating drugs such as MAO inhibitors and phenothiazines. Observe usual precautions in presence of impaired renal or hepatic function. Paradoxical reactions (*e.g.*, excitement, stimulation and acute rage) have been reported in psychiatric patients. Employ usual precautions in treatment of anxiety states with evidence of impending depression; suicidal tendencies may be present and protective measures necessary. Variable effects on blood coagulation have been reported very rarely in patients receiving the drug and oral anticoagulants; causal relationship has not been established clinically.

Adverse Reactions: No side effects or manifestations not seen with either compound alone have been reported with Librax. When chlordiazepoxide hydrochloride is used alone, drowsiness, ataxia and confusion may occur, especially in the elderly and debilitated. These are reversible in most instances by proper dosage adjustment, but are also occasionally observed at the lower dosage ranges. In a few instances syncope has been reported. Also encountered are isolated instances of skin eruptions, edema, minor menstrual irregularities, nausea and constipation, extrapyramidal symptoms, increased and decreased libido—all infrequent and generally controlled with dosage reduction; changes in EEG patterns (low-voltage fast activity) may appear during and after treatment; blood dyscrasias (including agranulocytosis), jaundice and hepatic dysfunction have been reported occasionally with chlordiazepoxide hydrochloride, making periodic blood counts and liver function tests advisable during protracted therapy. Adverse effects reported with Librax are typical of anticholinergic agents, *i.e.*, dryness of mouth, blurring of vision, urinary hesitancy and constipation. Constipation has occurred most often when Librax therapy is combined with other spasmolytics and/or low residue diets.

ROCHE

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Division of Hoffmann-La Roche Inc.
Nutley, New Jersey 07110

Information for authors

Material for *Texas Medicine* may be sent to the Managing Editor, 1801 North Lamar Blvd., Austin 78701. It must be offered solely to this journal. Each paper is reviewed by a consultant specialist and an editorial board, and is accepted or rejected on the basis of its individual merit and the availability of other material.

Manuscripts should be typed double-spaced with ample margins on firm paper. Carbons are unacceptable, but the author should keep a copy.

The *title* should include the words most suitable for indexing the article in "Index Medicus," should stress the main point, and should be brief. Subtitles should not be connected grammatically with the main title.

The *author's names* and degrees should follow the title, and their mailing addresses should be listed at the end of the article.

The *text* should be narrative with complete sentences, *few abbreviations*, and logical subheading. For *spelling and usage* the editors follow "Dorland's Illustrated Medical Dictionary," 24th edition, and "Webster's Third New International Dictionary, Unabridged." *Quotations* must give credit to both author and source. A concise *introductory summary* is required.

Reference lists should contain in this order (1) author's last name, initials, (2) title of article or book, (3) name of journal, (4) volume and inclusive page numbers, written 33:156-160, (5) year. For books, the title should be followed by place of publication, name of publisher, and year.

Illustrations should be black and white drawings or positive photographs, with neat, uniform, fairly large lettering. A label pasted to the back of each illustration should indicate its number, top, author's name, and title of article in brief. *Legends* should be in complete sentences, numbered, and typed on a separate sheet. *Color illustrations* are authorized if they are of special value.

Tables should be typed on separate sheets. Column headings should show points of similarity; side headings, points of difference.

Permission should be obtained from the publishers and the authors for any previously published material (extensive textual matter, illustrations, tables) used. Short verbatim quotations in the text may be used without permission, but should be quoted exactly with the source credited in the bibliography. Copies of permission letters should be submitted with the manuscript.

All material is subject to *editing*, but authors receive typescripts to check before publication. Prompt return of typescripts to *Texas Medicine* office avoids delay in publication. After the article is sent to the printer, only minimal revision may be made.

Reprints are available directly from the printer at an established schedule of costs. Authors automatically receive order blanks when their articles are published.

Editorials should be prepared in the same general manner, and should be written in clear, concise language. They should be 300-500 words in length (about two to three pages typed with double spacing.)

Contributions to the news section should be sent to the Editorial Offices, 1801 N. Lamar Blvd., Austin 78701, by the 5th of the month preceding the month of publication.

PUBLICATION INFORMATION

Texas Medicine is published monthly by the Texas Medical Association.

Contributions, previously unpublished, are welcomed for review. News and other items should be sent to the Editorial Offices by the 5th of the month preceding the month of publication. All contributions are sent at the owner's risk.

Scientific Articles are reviewed by technical and specialist consultants and are selected for publication in Texas Medicine by the Scientific Publication Committee, which is appointed by the Board of Publication. Editorials and other articles are subject to review by officers of the Texas Medical Association, appropriate expert and technical consultants, and representatives of county medical societies when in their purview.

Scientific Publication Committee: John P. Vineyard, MD, Austin, Chairman; Joseph M. Abell, Jr., MD, Austin; Robert Askew, MD, Austin; Ronald P. Boren MD, Austin; Ernest C. Butler, MD, Austin; Jesse D. Cone, MD, Odessa; C. W. Daeschner, MD, Galveston; George A. Gates, MD, San Antonio; Stanton W. Glazener, MD, Austin; R. Maurice Hood, MD, Lubbock; Paxton H. Howard, Jr., MD, Temple; Joseph Lancaster, MD, Austin; Paul C. Peters, MD, Dallas; Richard S. Ruiz, MD, Houston; John P. Schneider, MD, Austin; H. Irving Schweppe, Jr., MD, Houston; Theodore P. Votteler, MD, Dallas.

Publication of any article or statement is not to be deemed an endorsement of the views expressed therein, nor shall publication of any advertisement be considered an endorsement of or approval of the product or service involved.

BLACKFORD MEMORIAL LECTURES

The 17th Annual Meeting of the Blackford Memorial Lectures, sponsored by Grayson County Medical Society, will be held Sept. 8, at Memorial Hospital, Denison, Tex. Program subjects will include acupuncture, uses of laser in surgery, massive gastrointestinal bleeding, and genetics.

Contact: Dr. John D. Gleckler, 211 N. Fannin, Denison 75020, Com. Chrm.

PANHANDLE DISTRICT MEDICAL SOCIETY

The annual meeting of the Panhandle District Medical Society will be Sept. 15 at the Koko Palace in Lubbock. The program is divided into three sections, medical, surgical, and obstetrics-gynecology. Dr. J. Ray Pryor, association professor of medicine, University of Colorado Medical Center, and Col. Wm. P. Nelson, chief of cardiology, Fitzsimons General Hospital, Denver, will be guest speakers for the medical section; Dr. Roger T. Sherman, professor of surgery and chairman of the department, University of South Florida College of Medicine, will be guest speaker for the surgical section; and guest speakers for the obstetrics-gynecology section will be Dr. L. Russell Malinak, associate professor of obstetrics-gynecology, Baylor College of Medicine, Dr. Ted H. Forsythe, associate clinical professor of obstetrics-gynecology, Texas University School of Medicine, and Dr. Preston DeShan, acting chairman, department of obstetrics-gynecology, Texas Tech University School of Medicine. Registration fee will be $10 for non-members of the district society, with the exception of students and military and VA physicians.

Contact: Carlie Umphres, Panhandle District Medical Society, PO Box 3276, Amarillo 79106, Exec. Sec.

QUALITY ASSESSMENT OF PATIENT CARE AND PEER REVIEW

Saturday, Sept. 8, the Scott and White Institutions with the Area Health Education Center program of The University of Texas Medical Branch at Galveston will sponsor a one-day conference and workshop on quality assessment of patient care and peer review in Temple. Faculty will include Dr. Joseph T. Painter, Houston internist and president of the board of directors of the Texas Medical Foundation; Dr. Edward C. Rosenow, Philadelphia executive vice president of the American College of Physicians; Dr. James C. Respess, professor of medicine, University of Virginia, Charlottesville; and Dr. Robert B. Talley, associate medical director, San Joaquin Foundation, Stockton, Calif. The conference workshop will emphasize recent developments in implementation of PSRO, methods of quality assessment, and developing models of PSRO, including computer application. The program is designed especially for officers of county medical societies, chiefs of hospital staffs, medical administrators, and others interested in learning more about peer review. Registration will be limited to 150, and fee for the conference is $25.

Contact: Department of Continuing Medical Education, Scott and White Memorial Hospital, Temple 76501.

TEXAS STATE BOARD OF EXAMINERS IN THE BASIC SCIENCES

The next examination of the Texas State Board of Examiners in the Basic Sciences has been set for Oct. 12-13, in Houston and Galveston. Applications for the examination must be complete and in their office by Sept. 14, and all necessary information and documents required of examinees by the Board must be completed and in the applicant's file by that date.

Contact: Texas State Board of Examiners in the Basic Sciences, 1012 Sam Houston State Office Building, 201 E. 14th St., Austin 78701.

COMING MEETINGS

CURRENT MEETINGS IN TEXAS

TEXAS SURGICAL SOCIETY meeting will be Sept. 30-Oct. 2 at the Holiday Inn Emerald Beach Hotel, Corpus Christi. The meeting is open to members and invited guests. Contact: Dr. Robb H. Rutledge, 901 S. Lake, Fort Worth 76104, Sec.

TEXAS SOCIETY OF CHILD PSYCHIATRY will hold its fall meeting at the Flying L Ranch, Bandera, Sept. 21-23. A seminar will be held on PSRO. Contact: Dr. Allen J. Cahill, 8226 Douglas, Suite 356, Dallas 75225, Sec.-Treas.

NEUROTOLOGY GROUP symposium will present a program, "Differential Diagnosis of Sensory and Neural Deafness," at the Sheraton-Dallas Hotel, Dallas, Sept. 17. Contact: Dr. Sidney N. Busis, 3500 Fifth Ave., Suite 300, Pittsburgh, Pa. 15213, Sec.-Treas.

CURRENT NATIONAL MEETINGS

AMERICAN FRACTURE ASSOCIATION's 1973 Annual Meeting will be Sept. 5-8, at the Hotel Bonaventure in Montreal, Canada. The scientific program, featuring the theme, Trauma, will be sponsored by the University of Ottawa, McGill University, and the University of Montreal. A post convention tour of the orthopaedic centers of central Europe will be leaving Montreal Sept. 8. The tour will visit Munich, Vienna, Lucerne, Bern, Mannheim-Heidelberg, and Amsterdam. Contact: Dr. H. W. Wellmerling, 600 Livingston Bldg., Bloomington, Ill. 61701.

AMERICAN ASSOCIATION OF MEDICAL CLINICS will present "The Linking of Education and Health Care Delivery" as the theme of its annual meeting Sept. 16-20, at the Century Plaza Hotel, Los Angeles. Featured speakers will be Dr. M. Roy Schwarz, University of Washington School of Medicine, Seattle; Dr. William R. Willard, University of Alabama; Dr. Merlin K. DuVal, University of Arizona Medical Center, Tucson; Dr. William I. Bauer, Department of Health, Education and Welfare, Washington, DC; and Dr. William R. Roy, Democratic Congressman from Kansas. A post-meeting tour to Mexico will leave Los Angeles Sept. 21 with visits in Taxco, Mexico City, and Acapulco. Contact: AAMC, PO Box 949, Alexandria, Va. 22313.

WYOMING STATE MEDICAL SOCIETY will hold its 70th Annual Meeting Aug. 28-31 at Jackson Lake Lodge, Moran, Wyo. Scientific sessions will include programs on thermography, sexual counseling for the family physician, antibiotic selection in the critically-ill patient, peptic ulcer disease and surgical management, and nutrition. Continuing medical education courses will be included in the program. Contact: Wyoming State Medical Society, PO Box 1387, Cheyenne, Wyo. 82001.

For other courses and symposiums, see Continuing Education Courses, pp. 35-36.

MORE COMING MEETINGS

■ Denotes Texas meetings.

SEPTEMBER

■ AMERICAN ACADEMY OF OPHTHALMOLOGY AND OTOLARYNGOLOGY, Dallas, Sept. 16-20, 1973. Dr. C. M. Kos, 15 Second St. SW, Rochester, Minn. 55901.

AMERICAN CANCER SOCIETY, Second National Conference on Cancer of the Colon and Rectum, Bal Harbour, Fla., Sept. 27-29, 1973. Dr. Sidney L. Arje, 219 E. 42nd St., New York 10017.

AMERICAN MEDICAL ASSOCIATION, 33rd Annual AMA Congress on Occupational Health, Philadelphia, Sept. 17-18, 1973. AMA, 535 N. Dearborn St., Chicago, Ill. 60610.

AMERICAN ROENTGEN RAY SOCIETY, Montreal, Sept. 25-28, 1973. Dr. Ted F. Leigh, Emory University Clinic, Atlanta 30322, Exec. Sec.

■ AMERICAN SOCIETY OF INTERNAL MEDICINE, Dallas, Sept. 21-22, 1973. American Society of Internal Medicine, 525 The Hearst Bldg., Third at Market, San Francisco 94103.

INTERNATIONAL HEALTH EVALUATION ASSOCIATION, London, England, Sept. 11-14, 1973. Mrs. Norma M. Oldfield, 354 Tappan St., Brookline, Mass. 02146, Exec. Dir.

INTERNATIONAL MEDICAL CONGRESS, Fourth International Conference on Birth Defects, Vienna, Austria, Sept. 2-8, 1973. Richard C. Gedney, 1275 Mamaroneck Ave., White Plains, NY 10605, Exec. Sec.

■ TEXAS PEDIATRIC SOCIETY, Austin, Sept. 20-22, 1973. Dr. Pat A. Cato, 3907 Medical Pkwy., Austin 78756.

OCTOBER

AMERICAN ACADEMY OF FAMILY PHYSICIANS, Denver, Oct. 1-4, 1973. Roger Tusken, Volker Blvd. at Brookside, Kansas City, Mo. 64112, Exec. Dir.

AMERICAN ACADEMY OF PEDIATRICS, Chicago, Oct. 20-24, 1973. Dr. Robert G. Frazier, PO Box 1034, Evanston, Ill. 60204, Exec. Dir.

AMERICAN ACADEMY OF PHYSICAL MEDICINE AND REHABILITATION, Washington, DC, Oct. 21-26, 1973. Creston Herold, 30 N. Michigan Ave., Chicago 60602, Exec. Off.

AMERICAN ASSOCIATION FOR LABORATORY ANIMAL SCIENCE, Bal Harbour, Fla., Oct. 1-5, 1973. Joseph J. Garvey, 2317 W. Jefferson, Suite 208, Joliet, Ill. 60435, Exec. Sec.

AMERICAN ASSOCIATION OF MEDICAL ASSISTANTS, Washington, DC, Oct. 23-27, 1973. Dene R. Murray, One E. Wacker, No. 1510, Chicago 60601, Exec. Dir.

AMERICAN BOARD OF FAMILY PRACTICE, Oct. 20-21, 1973. Dr. Nicholas J. Pisacano, University of Kentucky Medical Center, Annex No. 2, Rm. 229, Lexington 40506, Sec.

AMERICAN COLLEGE OF CHEST PHYSICIANS, Toronto, Ontario, Oct. 21-25, 1973. Dr. Alfred Soffer, 112 East Chestnut, Chicago 60611, Exec. Dir.

AMERICAN COLLEGE OF GASTROENTEROLOGY, Los Angeles, Oct. 21-27. Daniel Weiss, 299 Broadway, New York 10007, Exec. Sec.

AMERICAN COLLEGE OF SURGEONS, Chicago, Oct. 15-19, 1973. C. Rollins Hanlon, 55 E. Erie St., Chicago 60611, Dir.

AMERICAN CONGRESS OF REHABILITATION MEDICINE, Washington, DC, Oct. 21-26, 1973. Creston Herold, 30 N. Michigan Ave., Chicago 60602, Exec. Off.

AMERICAN DIETETIC ASSOCIATION, Denver, Oct. 22-26, 1973. Lorraine Thomas, 620 N. Michigan Ave., Chicago 60611.

AMERICAN HUMANE ASSOCIATION, Charleston, S.C., Oct. 21-25, 1973. H. M. Thorp, PO Box 1266, Denver 80201, Conv. Coord.

AMERICAN MEDICAL ASSOCIATION, 14th National Conference on Physicians and Schools, Chicago, Oct. 4-6, 1973. AMA, 535 N. Dearborn St., Chicago 60610.

AMERICAN SOCIETY OF ANESTHESIOLOGISTS, San Francisco, Oct. 7-11, 1973. John W. Andes, 515 Busse Highway, Park Ridge, Ill. 60068, Exec. Sec.

AMERICAN SOCIETY OF PLASTIC AND RECONSTRUCTIVE SURGEONS, Hollywood, Fla., Oct. 21-26, 1973. Dallas F. Whaley, 29 E. Madison, Suite 807, Chicago 60602, Exec. Dir.

ASSOCIATION OF LIFE INSURANCE MEDICAL DIRECTORS OF AMERICA, New York City, Oct. 14-17, 1973. Dr. Arthur E. Brown, 501 Boylston St., Boston 02117, Sec.

CIVIL AVIATION MEDICAL ASSOCIATION, Mexico, Oct. 22-25, 1973. Dr. Luis A. Amezcuag, Ave. Progreso No. 186-101, Mexico 18, DF, Mex., Chrmn.

SOUTHERN PSYCHIATRIC ASSOCIATION, Miami, Oct. 6-9, 1973. Annette S. Boutwell, PO Box 10387, Raleigh, NC 27605, Exec. Sec.

■ TEXAS MEDICAL ASSOCIATION, Austin, Oct. 5-7, 1973. C. Lincoln Williston, 1801 N. Lamar Blvd., Austin 78701, Exec. Sec.

■ UNIVERSITY OF TEXAS M.D. ANDERSON HOSPITAL AND TUMOR INSTITUTE and The University of Texas Medical Branch at Galveston, Legacies of Railroad Medicine to American Health Care, Houston, Oct. 27-28, 1973. Dr. Robert C. Hickey, The University of Texas M.D. Anderson Hospital and Tumor Institute, Texas Medical Center, Houston 77025, Exec. V.P.

WORLD CONFERENCE ON THE HUMAN ENVIRONMENT, Yugoslavia, Oct. 23-26, 1973. Dr. Gerald D. Dorman, 10 Columbus Circle, New York 10019.

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Warnings: Use during pregnancy is to be avoided.
Precautions: 1. *Starvation Ketosis:* This must be differentiated from "insulin lack" ketosis and is characterized by ketonuria which, in spite of relatively normal blood and urine sugar, may result from excessive phenformin therapy, excessive insulin reduction, or insufficient carbohydrate intake. Adjust insulin dosage, lower phenformin dosage, or supply carbohydrates to alleviate this state. **Do not give insulin without first checking blood and urine sugar.**
2. *Lactic Acidosis:* This drug is not recommended in the presence of azotemia or in any clinical situation that predisposes to sustained hypotension that could lead to lactic acidosis. To differentiate lactic acidosis from ketoacidosis, periodic determinations of ketones in the blood and urine should be made in diabetics previously stabilized on phenformin, or phenformin and insulin, who have become unstable. If electrolyte imbalance is suspected, periodic determinations should also be made of electrolytes, pH, and the lactate-pyruvate ratio. The drug should be withdrawn and insulin, when required, and other corrective measures instituted immediately upon the appearance of any metabolic acidosis.
3. *Hypoglycemia:* Although hypoglycemic reactions are rare when phenformin is used alone, every precaution should be observed during the dosage adjustment period particularly when insulin or a sulfonylurea has been given in combination with phenformin.
Adverse Reactions: Principally gastrointestinal; unpleasant metallic taste, continuing to anorexia, nausea and, less frequently, vomiting and diarrhea. Reduce dosage at first sign of these symptoms. In case of vomiting, the drug should be immediately withdrawn. Although rare, urticaria has been reported, as have gastrointestinal symptoms such as anorexia, nausea and vomiting following excessive alcohol intake. (B) 98-146-103-E (6/72)

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Opinion & Dialogue

"Prescription drugs – who should determine the maker?"

Dispenser of Medicine

Clifton J. Latiolais
President
American Pharmaceutical Association

Maker of Medicine

C. Joseph Stetler
President
Pharmaceutical Manufacturers Association

"Too many doctors are indiffer ent to the economic consequences their decisions." So stated a recent issue of *Medical News Report* (December 4, 1972), an independent weekly newsletter published by form AMA Chief Executive F. J. L. Blasingame, M.D.

Doctor, are you indifferent...?

In discussing an anticipated increase in Blue Shield rates, Dr. Blasingame's newsletter had this to say:

"In general, it can be said, MD have given the impression they are not particularly concerned with the increase in cost of health care to the patients...

"True, an MD's training is primarily scientific, but in the real worl of practice, all of his scientific decisions have a price tag, or an econom impact. The economics of health car beckon the practitioner's attention. Concern for economics of medicine

When the pharmacist recommends that a drug product other tha the one ordered be dispensed, the prescriber invariably permits the change when he feels the best interests of the patient will be served.

Shortcomings of Pro-Substitution Argument

The fact remains that it is neces sary for the prescriber to know that the change is being contemplated, and to be in a position to consent or demur. Without that opportunity, the unilateral decision of the pharmacist, made in the absence of clinical knowl edge of the patient, could expose him to needless risks, and in addition, jeopardize the relationship between the professions of Pharmacy and Medicine. In my view, there is nothing in the pro-substitution argument that offsets these risks.

The Issue of Drug Knowledge

Substitution advocates claim that the primary justification for changing the rules is the desire to better utilize pharmacists' knowledge about drugs. Yet the pharmacist's task to keep current on the entire field of drug therapy, to some degree, puts him at a disadvantage. Most often, a practicing physician will need expert knowledge of no more than 25

Advertisement

should be an obligation of medical practice...

"Medical societies ought to conduct continuing campaigns to point out the substantial savings that could be realized thru deductible insurance and protection for catastrophic illness. At the very least, they should, in the patients' interest, question the tactics of any insurance organization that raises health care costs by forcing policyholders to buy insurance they may not need or want and probably won't ever use.

"Too many doctors are indifferent to the economic consequences of their decisions. Too many, for example, habitually hospitalize patients for the convenience of the MD. It's nonsense to deny such habits exist...

"Doctors, thru their medical societies, have unhesitatingly appealed to their patients for support in the fight against government interference with the private practice of medicine. And the public in the past has responded. It's time the American Medical Association and state and local medical societies paid off the debt by decisive action to hold down the cost of medical care."

Cost of Drugs

Insurance rates and hospital charges are only two factors in health care costs. The cost of drugs—both prescription and nonprescription—is another.

And when it comes to drug costs, the nation's pharmacists *are concerned.* Through their national professional society, the American Pharmaceutical Association, pharmacists are advising the public to use nonprescription medication cautiously and conservatively, and to seek the advice of their pharmacist before selecting or purchasing such drugs.

Outdated Laws

The pharmacist also is aware that when it comes to prescription drugs, often he has an even greater opportunity to reduce the cost to the patient—with no sacrifice in the quality of the medication dispensed. But in many states, outdated and antiquated laws prevent the pharmacist from engaging in drug product selection. "Drug product selection" simply means that the pharmacist functions in the patient's interest by consciously choosing, from the multiple brands available, a low-cost quality brand of the specific drug to be dispensed in response to the physician's prescription order.

Much *misinformation* has been purposely spread by those who stand to gain financially by maintaining high drug costs to the public. An endless stream of propaganda has emanated from the drug industry in an effort to persuade the medical profession that these so-called anti-substitution laws should be retained. And as long as these laws are retained, the drug industry will continue its current marketing practices which contribute unnecessarily to high drug costs to patients. These practices also are inviting government agencies to expand their restrictive controls on physicians and pharmacists.

APhA Efforts

As pharmacists, we are concerned about health care costs. We hope that every physician shares our concern on this vital issue, and will give his personal support to the constructive efforts APhA has undertaken in the interest of all patients.

(For a complete discussion of drug product selection, you are invited to request a free copy of the "White Paper on the Pharmacist's Role in Product Selection" from: American Pharmaceutical Association, 2215 Constitution Avenue, N.W., Washington, D.C. 20037.)

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or 30 drugs that he selects to treat the majority of conditions encountered in his practice. Moreover, the physician's choice of a specific brand is based on his knowledge of the patient's medical history and current condition, and his experiences with the particular manufacturer's product.

Some substitution proponents have argued that the dispensing of a prescription is a simple two-party transaction between the pharmacist and the patient, and that a substituting pharmacist may avoid even a technical breach of contract by simply notifying the patient that he is making the substitution. I would judge that few courts would be sympathetic toward a pharmacist who substituted without physician approval and who undertook a legal defense that seeks to make the patient responsible for the pharmacist's actions.

Reduced Prescription Prices?

Substitution advocates are suggesting to the consumer, and particularly the consumer activist, that reduced prescription prices could follow legalization of substitution. We have seen absolutely no evidence to justify this claim. To the contrary, experience in Alberta, Canada, where substitution is authorized, suggests the opposite.

Many pharmacists understandably are concerned about the cost of maintaining multiple stocks of similar products. While there is no doubt that inventory costs rise when additional brands are stocked, it would be interesting to know how much they rise, and how many pharmacists actually stock *all* brands—of, say, ampicillin or tetracycline—or how long they keep "slow moving" products on their shelves before they are returned for credit. To ask that the industry eliminate multiple sources is to ask competitors to stop competing.

Drug Substitution—A License for the Unethical

Anti-substitution repeal would favor "corner cutting" pharmacists and manufacturers. For them, free substitution would be not a right, but a license. As an aftermath, it is quite likely that the confidence of both physicians and patients in the profession of Pharmacy would be eroded, as revelations about the unconscionable behavior of an undisciplined few were magnified in the press or in professional circles.

Summary

In short, what the American Pharmaceutical Association advocates as a broad-spectrum panacea looks to us to be not only a minority view (advocacy of substitution is by no means a uniform policy in Pharmacy), but also an extraordinarily costly and ineffective remedy, whose side effects are odious. We believe (1) that an impressive majority of pharmacists prefer to work with Medicine and with industry, for the consumer, and for the general good, (2) that they seek the privilege to substitute when the patient might gain and when the patient's doctor agrees, and (3) that they seek to work for the resolution of genuine grievances openly and professionally.

(For amplification of PMA views, please write for our booklet, "The Medications Physicians Prescribe: Who Shall Determine the Source?" It is available from: Pharmaceutical Manufacturers Association, 1155 Fifteenth Street, N.W., Washington, D.C. 20005.)

Pharmaceutical Manufacturers Association
1155 Fifteenth Street, N.W.
Washington, D.C. 20005

P·M·A

WORLD MEDICAL ASSOCIATION, Munich, Germany, Oct. 14-20, 1973. M. L. Natwick, 10 Columbus Circle, New York 10019, Exec. Sec.

NOVEMBER

AMERICAN ASSOCIATION OF BLOOD BANKS, Bal Harbour, Fla., Nov. 11-16, 1973. Lois J. James, 30 N. Michigan Ave., Chicago 60602, Cen. Office Mgr.

AMERICAN ASSOCIATION FOR RESPIRATORY THERAPY, Atlanta, Nov. 11-14, 1973. Winfield S. Singletary, 7411 Hines Pl., Dallas 75235, Exec. Off.

AMERICAN HEART ASSOCIATION, Atlantic City, N.J., Nov. 8-13, 1973. William Moore, 44 E. 23rd St., New York 10010, Exec. Dir.

AMERICAN MEDICAL WOMEN'S ASSOCIATION, Palm Beach, Fla., Nov. 7-10, 1973. Gertrude Conroy, 1740 Broadway, New York 10019, Exec. Sec.

ASSOCIATION OF AMERICAN MEDICAL COLLEGES, Washington, DC, Nov. 4-8, 1973. Dr. Charles C. Sprague, 1 Dupont Circle, NW, Washington, DC 20036, Chrmn.

■ **AMERICAN ASSOCIATION FOR CLINICAL IMMUNOLOGY AND ALLERGY, San Antonio, Nov. 29-Dec. 2, 1973. Dr. Robert J. Brennan, 3471 N. Federal Hwy., Ft. Lauderdale, Fla. 33306, Prog. Chrmn.**

ASSOCIATION OF MILITARY SURGEONS OF THE UNITED STATES, Washington, DC, Nov. 25-28, 1973. RADM. Walter Welham, 8502 Connecticut Ave., Chevy Chase, Md. 20015, Exec. Dir.

INTERNATIONAL CONGRESS OF GYNECOLOGICAL LAPAROSCOPY, New Orleans, Nov. 17-20, 1973. Dr. Jordan M. Phillips, 11239 S. Lakewood Blvd., Downey, Calif. 90241.

■ **SOUTHERN MEDICAL ASSOCIATION, San Antonio, Nov. 11-14, 1973. Robert F. Butts, 2601 Highland Ave., Birmingham, Ala., Exec. Dir.**

■ TEXAS ACADEMY OF FAMILY PHYSICIANS, San Antonio, Nov. 5-7, 1973. Donald C. Jackson, 1905 N. Lamar Blvd., Austin 78705, Exec. Off.

■ TEXAS DERMATOLOGICAL SOCIETY, San Antonio, Nov. 12-15, 1973. Dr. Eugene P. Schoch, Jr., 3A Medical Arts Sq., Austin 78705, Sec.

■ **TEXAS MEDICAL ASSOCIATION, House of Delegates, Austin, Nov. 3-4, 1973. C. Lincoln Williston, 1801 N. Lamar Blvd., Austin 78701, Exec. Sec.**

■ TEXAS NURSING HOME ASSOCIATION, San Antonio, Nov. 8-10, 1973. Sidney D. Rich, 6225 Hwy 290 East, Austin 78723, Exec. Off.

DECEMBER

AMERICAN ACADEMY OF DERMATOLOGY, Chicago, Dec. 1-6, 1973. Mrs. Betty Suor, 2250 NW Flanders St., Portland, Ore. 97210, Exec. Sec.

AMERICAN ACADEMY OF PSYCHOANALYSIS, New York City, Dec. 7-9, 1973. Dr. Jos. Barnett, 8 E. 77th St., New York 10009, Sec.

AMERICAN CANCER SOCIETY, INC., National Conference on Virology and Immunology in Human Cancer, New York City, Nov. 29-Dec. 1, 1973. Dr. Sidney L. Arje, American Cancer Society, Inc., 219 E. 42nd St., New York 10017.

AMERICAN MEDICAL ASSOCIATION, clinical convention, Anaheim, Calif., Dec. 1-5, 1973. AMA, 535 N. Dearborn St., Chicago 60610.

■ HERMANN HOSPITAL ALUMNI MEETING of the Department of Ophthalmology of The University of Texas Medical School, Houston, Dec. 15, 1973. Dr. Richard S. Ruiz, Department of Ophthalmology, 1121 Hermann Professional Bldg., Houston 77025, Dir.

SOUTHERN SURGICAL ASSOCIATION, Hot Springs, Va., Dec. 3-5, 1973. Dr. David C. Sabiston, Jr., Dept. of Surgery, Duke University Medical Center, Durham, N.C. 27710, Sec.

■ SOUTHWESTERN GYNECOLOGIC ASSEMBLY, Dallas, Dec. 7-9, 1973. Dr. R. Mainord Todd, 8226 Douglas, Dallas 75225, Sec.

JANUARY

AMERICAN ACADEMY OF ALLERGY, Bal Harbour, Fla., Jan. 19-23, 1974. James O. Kelley, 225 E. Michigan, Milwaukee, Wisc. 53202, Exec. Dir.

■ AMERICAN SOCIETY FOR SURGERY OF THE HAND, Dallas, Jan. 15-17, 1974. Dr. Ray A. Elliott, Jr., 23 Hackett Blvd., Albany, NY 12208, Pub. Com.

SOUTHWEST ALLERGY FORUM, Phoenix, Ariz., Jan. 14-16, 1974. Dr. E. G. Barnet, 550 W. Thomas Rd., Suite 233D, Phoenix 85013, Pres.

■ UNITED CEREBRAL PALSY ASSOCIATION OF TEXAS, INC., Houston, Jan. 1974. L. D. Harris, 4810 Shoal Creek, Austin 78756.

FEBRUARY

■ AMERICAN ACADEMY OF FORENSIC SCIENCES, Dallas, Feb. 13-16, 1974. Harlan L. Kimball, PO Box 302, New Hartford, Conn. 60657, Exec. Off.

AMERICAN COLLEGE OF CARDIOLOGY, New York City, Feb. 11-15, 1974. Wm. D. Nelligan, 9650 Rockville Pike, Bethesda, Md. 20014.

AMERICAN HOSPITAL ASSOCIATION, Washington, DC, Feb. 4-7, 1974. James E. Hague, 840 N. Lake Shore Dr., Chicago 60611, Sec.

■ FIRST DISTRICT MEDICAL SOCIETY, El Paso, Feb. 1-2, 1974. Dr. John Emmett, 612 University Towers, El Paso 79902, Sec.

SOCIETY FOR CONTEMPORARY OPHTHALMOLOGY, Miami Beach, Feb. 6-10, 1974. Dr. John G. Bellows, 30 N. Michigan Ave., Chicago 60602, Exec. Dir.

CONTINUING EDUCATION COURSES

SEPTEMBER

Anatomy: The University of Texas Health Science Center at Houston will sponsor a course, "Regional Anatomy," Sept. 6, 1973-June, 1974, in Houston. Fee: $100. The course is accredited by the AAFP. Contact: Dr. Grant Taylor, Dean, Division of Continuing Education, UT Health Science Center at Houston, PO Box 20367, Houston 77025.

Cardiology: "Management of Cardiac Disease in Infancy" will be sponsored by The University of Texas Medical School at San Antonio Sept. 14-15, 1973. Emphasis of the course will be placed upon diagnosis and care of the infant with cyanotic heart disease and congestive heart failure with highlights of recent medical and surgical advances to be discussed. Fee: $50. Credit: 10 hours, AAFP and Category 1, Physician's Recognition Award. Contact: Dr. Paul Cutler, The University of Texas Medical School at San Antonio, 7703 Floyd Curl Dr., San Antonio 78284.

Basic Electrocardiography: Sponsored by UT Health Science Center at San Antonio, Sept. 13-Nov. 15, San Antonio. Fee: $50. Credit: 20 hours, AAFP and Category 1, AMA Physician's Recognition Award. Contact: Dr. Paul Cutler, Associate Dean for Clinical Affairs, UT Health Science Center at San Antonio, 7703 Floyd Curl Dr., San Antonio 78284.

Gastroenterology: This one-day conference, to be held Saturday, Sept. 29, in Sid Richardson Auditorium, Scott and White Memorial Hospital, Temple, will review advances in clinical gastroenterology of interest to the primary physician, internist, gastroenterologist, and general surgeon. Dr. Thomas Chalmers, Clinical Director, National Institutes of Health, Bethesda, Md., and Dr. Stanley Dudrick, Department of Surgery, University of Texas Medical School, Houston, will join a faculty from Scott and White Clinic medical staff in discussing gastrointestinal bleeding, malabsorption, hyperalimentation, hepatitis and other common gastrointestinal problems. This conference is acceptable for Category I, AMA Physician's Recognition Award. Contact: Dr. Paxton H. Howard, Director, Continuing Medical Education, Scott and White Memorial Hospital, Temple 76501.

Office Practice of Gynecology: Sponsored by South Plains Chapter, Texas Academy of Family Physicians and Texas Tech University School of Medicine, Sept. 15, Lubbock. Contact: Walter R. Gault, Texas Tech University School of Medicine, PO Box 4569, Lubbock 79409.

Oncology: A medical oncology course will be presented by The University of Texas System Cancer Center at M. D. Anderson Hospital and Tumor Institute at Houston in cooperation with The University of Texas Health Science Center at Houston, Sept. 24-28. The course is designed to review current concepts of the natural history, diagnosis, therapy, and clinical management of the spectrum of malignant disease cared for by the medical oncologist. It will consist of 32 hours of didactic lectures with time for discussion. Fee: $150. Credit: 32 hours. Contact: The Office of the Director, The University of Texas Health Science Center at Houston, Division of Continuing Education, PO Box 20367, Houston 77025.

Orthopedics: "What's New in Orthopaedics: Part I," cosponsored by the American Academy of Orthopaedic Surgeons and The University of Texas Medical School at San Antonio, will be presented Sept. 5-7 at the Convention Center, San Antonio. The purpose of the course is to stimulate the practicing orthopedist to attend a postgraduate program which will bring him up to date in approximately 15 different areas of orthopedics. Registration fee for physicians: $150; residents: $50; occupational and physical therapists: $50. Contact: Dr. Paul Cutler, Associate Dean for Clinical Affairs, 7703 Floyd Curl Dr., San Antonio 78284.

Patient Care and Peer Review: The Scott and White Institutions with the Area Health Education Center program of The University of Texas Medical Branch at Galveston will sponsor a one-day conference and workshop on quality assessment of patient care and peer review Sept. 8 in Temple. Faculty will include Dr. Joseph T. Painter, Houston internist and president of Texas Medical Foundation board of directors; Dr. Edward C. Rosenow, Philadelphia, executive vice president of the American College of Physicians; Dr. James C. Respess, professor of medicine, University of Virginia, Charlottesville; and Dr. Robert B. Talley, associate medical director, San Joaquin Foundation, Stockton, Calif. The conference workshop will emphasize recent developments in implementation of PSRO, methods of quality assessment, and developing models of PSRO, including computer application. The program is designed especially for officers of county medical societies, chiefs of hospital staffs, medical administrators, and others interested in learning more about peer review. Registration will be limited to 150, and fee for the conference is $25. Contact: Department of Continuing Medical Education, Scott and White Memorial Hospital, Temple 76501.

Surgery: Dr. Charles Gregory, Department of Orthopedic Surgery, University of Texas Southwestern Medical School, Dallas, will present the annual G. V. Brindley Lecture, Sept. 4, at Scott and White Memorial Hospital, Temple. Topic of the lecture will be "Trends in Continuing Medical Education." The lecture is acceptable for one hour of Category 1, AMA Physician's Recognition Award. Contact: Dr. Paxton H. Howard, Director, Continuing Medical Education, Scott and White Memorial Hospital, Temple 76501.

Trauma: The University of Texas Medical Branch at Galveston will present a course on trauma at the Holiday Inn, Galveston, Sept. 20-21. Fee for the course is $60. Contact: Dr. Stephen R. Lewis, Director, Postgraduate Division, The University of Texas Medical Branch, Galveston 77550.

Workshop in Soft Tissue Surgery: Sponsored by UT Otolaryngology Training Programs, Sept. 21-23, Dallas. Fee: $100. Contact: Dr. Jack P. Gunter, Chairman, Division of Otolaryngology, UT Health Science Center at Dallas,

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OCTOBER

Cardiology: Texas Tech University School of Medicine will present a one-day course entitled "Clinical Physiology of the Cardiovascular System," Oct. 18. Contact: Walter R. Gault, Texas Tech University School of Medicine, PO Box 4569, Lubbock 79409.

Coronary Artery Disease: Baylor College of Medicine in Houston will have a postgraduate course, "Coronary Artery Disease: 1973," Oct. 3-5. Contact: George E. Stewart, Jr., American Heart Association, 44 E. 23rd St., New York 10010.

Dermatology: The University of Texas Medical School at San Antonio will sponsor a two-day program, "Dermatology for the Family Physician," Oct. 27-28, in San Antonio. Credit: 8 hours, AAFP and Category 1, Physician's Recognition Award. Fee: $50. Contact: Dr. Paul Cutler, Associate Dean for Clinical Affairs, 7703 Floyd Curl Dr., San Antonio 78284.

Emergency Medicine: Four separate postgraduate courses, including emergency cardiac problems, trauma, acute respiratory problems, and advance nursing physician assessment of cardiovascular and respiratory systems, will be presented at the Scientific Assembly of the American College of Emergency Physicians and the Emergency Department Nurses Association to be held at the Dallas Convention Center, Oct. 23-25. Fee: $25 per course. Contact: American College of Emergency Physicians, 241 E. Saginaw St., East Lansing, Mich. 48823.

General Medicine: A symposium in general medicine will be presented by Tom Green Eight Counties Medical Society and Lederle Laboratories Oct. 27, in San Angelo. There is no fee for the course, and it is accredited for 6 hours by AAFP. Contact: Dr. John P. Coughlin, 2102 Pecos, San Angelo 76901.

Human Genetics: "Human Genetics for the Family Physician and the Pediatrician," sponsored by The University of Texas Medical School at San Antonio, will be presented Oct. 12-13, to review the principles of human inheritance and the current state of the most exciting "frontier" in clinical practice. Accreditation: 10 hours by the AAFP and Category 1, AMA Physician's Recognition Award. Fee: $50. Contact: Dr. Paul Cutler, Associate Dean for Clinical Affairs, 7703 Floyd Curl Dr., San Antonio 78284.

Medical Intensive Care: Cardiac and pulmonary problems which require intensive care will be the focus of the course sponsored by The University of Texas Medical School at San Antonio Oct. 11-Dec. 13. The course is accredited for 90 hours by the AAFP and Category 1 of the AMA Physician's Recognition Award. Fee: $150. Contact: Dr. Paul Cutler, Associate Dean for Clinical Affairs, 7703 Floyd Curl Dr., San Antonio 78284.

Neurology and Psychiatry: A conference on "Practical Neurology and Psychiatry" will be held Oct. 12-13, at Scott and White Memorial Hospital, Temple. This program will present a practical approach to common office problems including cerebrovascular disease, headache, back pain, anxiety and depression. Dr. Joe Foley, Department of Neurology, Western Reserve University and members of the medical staff, Scott and White Clinic, will participate in case presentations, workshops and demonstrations. This conference is acceptable for Category I, AMA Physician's Recognition Award. Contact: Dr. Paxton H. Howard, Director, Continuing Medical Education, Scott and White Memorial Hospital, Temple 76501.

Oncology: Baylor College of Medicine at Houston will sponsor a course in clinical oncology Oct. 2-Dec. 14. Enrollment is unlimited and there is no fee. Teaching methods to be used are audiovisual materials, clinical conferences, lectures, open question and panel discussions, and seminars. Contact: Dr. Montague Lane, Division of Clinical Oncology, Baylor College of Medicine, Texas Medical Center, Houston 77025.

Psychiatry: Sponsored by The University of Texas Medical School at San Antonio, a course entitled "Psychiatric Treatment in the 70's" will be presented at the Inn of the Hills, Kerrville, Tex., Oct. 19-21. The course will include discussions on the referral of children, use of psychotropic drugs, treatment of adolescents, and new approaches to helping those with sexual disorders. This course is acceptable for 9 hours by the AAFP and Category 1, AMA Physician's Recognition Award. Fee: $60. Contact: Dr. Paul Cutler, Associate Dean for Clinical Affairs, 7703 Floyd Curl Dr., San Antonio 78284.

Rheumatology: "Rheumatology for the Family Physician," a course covering common rheumatic problems with emphasis upon diagnosis, interpretation of laboratory results, and both the principles as well as the specifics of management, will be presented Oct. 25-Dec. 20 by The University of Texas Medical School at San Antonio. The course is acceptable for 16 hours by the AAFP and Category 1, AMA Physician's Recognition Award. Registration fee: $50. Contact: Dr. Paul Cutler, Associate Dean for Clinical Affairs, 7703 Floyd Curl Dr., San Antonio 78284.

NOVEMBER

Renal Disease: The Kidney Foundation of Houston and the Greater Gulf Coast will present a symposium, "Management of Renal Disease—1973," by the faculties of Baylor College of Medicine and The University of Texas Nov. 9-10 at the Marriott Motor Hotel, Houston. Morning programs will be devoted to detailed presentation of clinically important topics in kidney and electrolyte problems. In the afternoon, there will be several small group workshops with special programs for dietitians and dialysis nurses and technicians. Contact: Dr. G. Eknoyan, Assoc. Professor of Medicine, Baylor College of Medicine, Texas Medical Center, Houston 77025.

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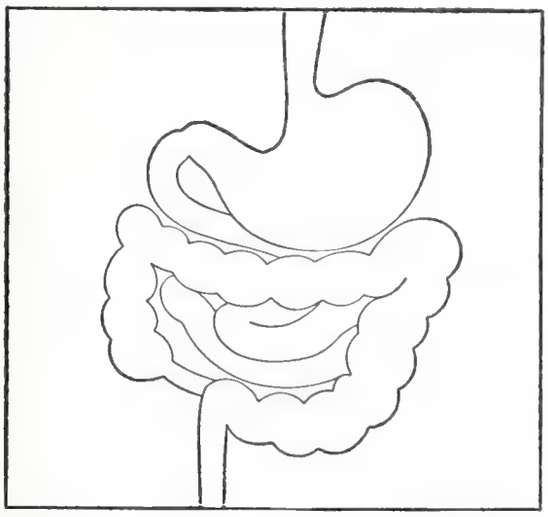

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1. Braverman, L. E., Ingbar, S. H., and Sterling, K.: Conversion of Thyroxine (T_4) to Triiodothyronine (T_3) in Athyreotic Human Subjects, J. Clin. Invest. 49:855-64, 1970.
2. Surks, M. I., Schadlow, A. R., and Oppenheimer, J. H.: A New Radioimmunoassay for Plasma L-Triiodothyronine: Measurements in Thyroid Disease and in Patients Maintained on Hormonal Replacement. J. Clin. Invest. *51*:3104-13, 1972.

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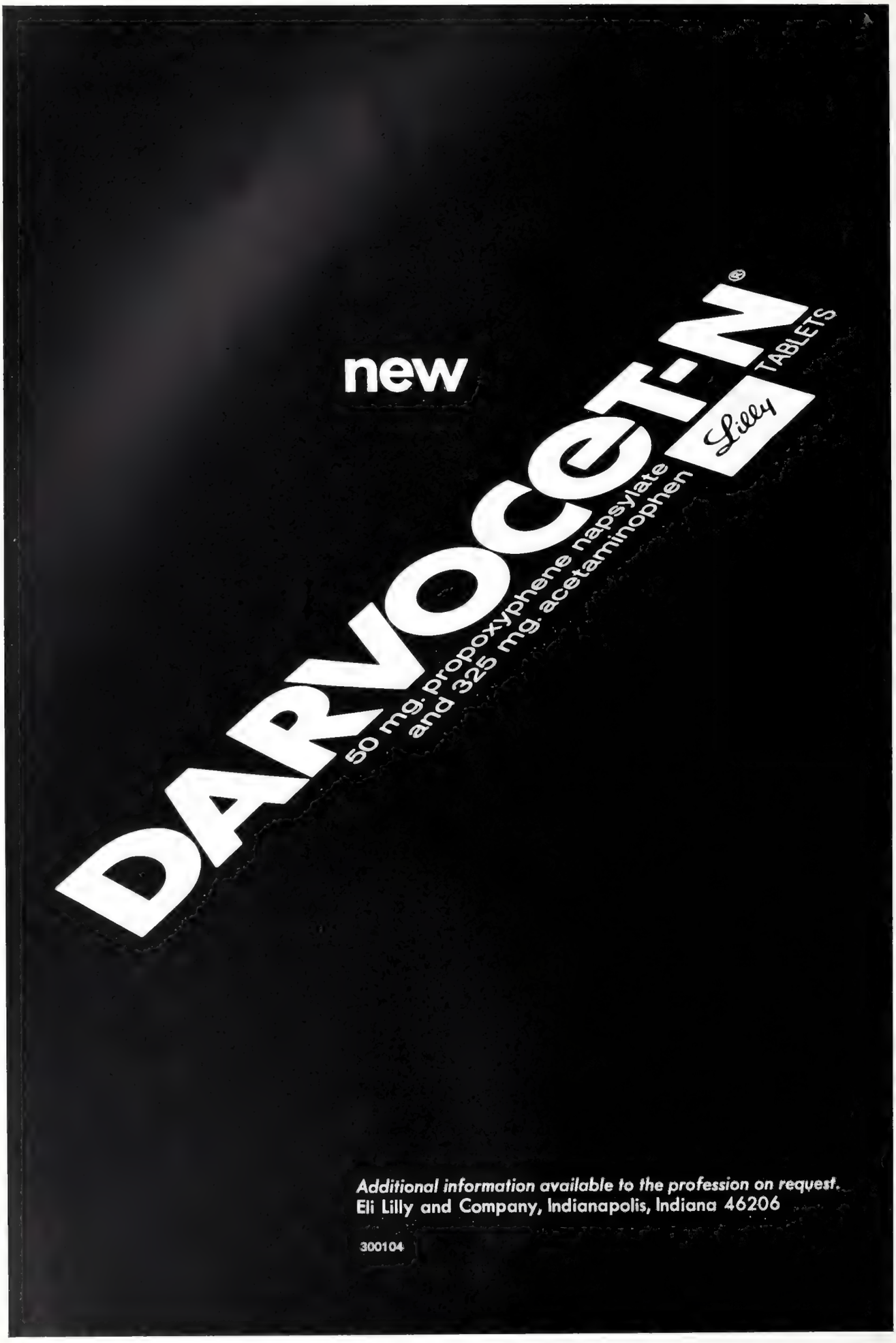
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Reluctance of patients with psychogenic chest pain to acknowledge their anxiety; ventilating effect of direct interrogation

R. Louis Cope, MD

In a series of 170 patients with predominantly psychogenic chest pain, a study was made of the willingness or reluctance of each to disclose the disease that he feared. If the anxiety was not acknowledged voluntarily, then direct questioning was carried out in an attempt to uncover it. The results of interrogation by the physician varied considerably according to the wording and the time of the question as well as its repetition. Patients spoke more freely with the nurses than with the physician.

In a previous study[1] concerning the psychogenic aspects of chest pain, a considerable difference was noted among patients in their inclination to mention or discuss their anxiety. It appeared that many were more reticent with the physician than with other office personnel. Thus, an admitting clerk might be told that the reason for the visit was a heart examination, or the complaint to the nurse would be "pains around the heart" while the physician would be told only of "gas" or "muscular" pain. In a coronary care unit, Hackett et al[2] found that 90% of patients denied fear when questioned early during the interview, but the longer the physician spent with the patient, the more apt the patient was to admit that he was afraid.

Because of the recognized importance of having anxious patients give vent to their fears as well as of the physician giving definite reassurance, it was decided to explore this reticence more fully in a specific psychosomatic situation. To this end, 170 consecutive clinic patients with chest pain of predominantly psychogenic origin were questioned directly about their anxiety if they had not already volunteered the information. Ages ranged from 18 to 77 with an average of about 52. All except two were males.

As in the earlier study the final diagnosis was made only after a thorough workup had been completed. A history, physical examination, chest x-ray and electrocardiogram were done on all patients. Some had exercise tolerance (Master's) tests and a psychiatric consultation was obtained when indicated. There were follow-up visits in doubtful cases, especially to assess the effect of reassurance.

The 170 patients were divided into five groups. Group 1 consisted of 50 patients who, if they had not already admitted fear (and it appeared that their pain was not organic in origin), were questioned by the physician at the start of the physical examination after the regular history had been taken and some rapport established. The first question usually was, "What do you suspect that the pain is due to?" If the patient mentioned the heart, cancer, or other justifiable cause for worry, the response was listed as positive and no further questions were asked. But if the reply was "I don't know," or if the patient cited some insignificant cause, there followed a second query, as, "I realize that you don't know the cause, but what came to your mind?"

In group 2 there was 30 patients who were questioned similarly to those in group 1, except that the time was delayed; only after the examination had been completed was the patient reassured that the pain was not serious.

The next 60 patients, equally divided into groups 3 and 4, were asked specifically about the condition that they obviously feared. Thus, a typical first question would be, "Do you think that the pain might be due to your heart?" If the answer was noncommittal the second question might be, "Well, had you thought it might be

your heart?" In group 3 the interrogation was done at the start of the physical examination, as in group 1, while in group 4 it was postponed until the completion of the examination, and reassurance given as in group 2.

The final 30 patients, in group 5, were questioned by a nurse during a preliminary interview. Only one question, at the end of the interview, was asked. It was usually worded, "What do you think is causing the pain?" and was comparable to the questions in group 1. Since she did not attempt to differentiate the organic from the functional, the nurse queried all patients who presented with chest pain, the assorting being done later by the physician.

Results

As seen in Fig 1, only 16, or approximately one-third of the 50 patients in group 1, admitted their anxiety either voluntarily or with the first question. The follow-up query resulted in acknowledgement by another 13, or 20%. After reassurance (group 2), there was somewhat less resistance; this was particularly evident with the second question.

Specific questioning (groups 3 and 4) brought about much earlier responses. Here again, reassurance (group 4) had an appreciable effect. Although the number of patients in group 5 may not be large enough to be conclusive, the results in these 30 cases tend to confirm the initial impression that patients speak more freely about their anxieties to nurses than to physicians; two-thirds of the group, a higher percentage than in any of the other groups, either admitted voluntarily or answered on the first question that they were worried.

The affirmative replies were direct and unhesitating in only about one-half of the cases. In the remainder they were indirect and often rambling, such as, "Well, my father died of a heart attack so I was worried."

In the first four groups there was a significant difference in the responses of those who had no serious intrathoracic disease and those who had or were told they had abnormalities. There were 82 of the former; of these, 29 (35%) volunteered or answered affirmatively to the first question. Of the 58 who knew that they had organic disease or who were so told, even though subsequently found not to be present, 28 (48%) were frank in acknowledging their anxiety. However, in group 5, patients who were questioned by the nurses, there was no such appreciable difference. Only a few of those with concomitant organic disease were symptomatic from their somatic ailment.

Not indicated in the foregoing figures are those who answered negatively when

1. Disclosure of anxiety in psychogenic chest pain.

	Group 1 50 Cases	Group 2 30 Cases	Group 3 30 Cases	Group 4 30 Cases	Group 5 30 Cases
Volunteered	8 (16%)	2 (6.6%)	2 (6.6%)	2 (6.6%)	6 (20%)
Affirmation on 1st question	8 (16%)	8 (26.6%)	13 (43.3%)	16 (53%)	14 (46.6%)
Affirmation on 2nd question	13 (26%)	16 (53%)	9 (30%)	8 (26%)	
Noncommittal	21 (42%)	4 (13.3%)	6 (20%)	4 (13.3%)	10 (33%)

questioned early during the visit, but later let it be known (sometimes when asked) that they feared having a serious disease. In fact, only a few departed still insisting that they had been certain that their pain was innocuous. Thus it was not unusual for a patient to insist earlier that he hadn't "the slightest idea what was causing the pain," yet when later informed that there was no heart disease, he would exclaim with relief, "That's what I was sure that I had."

Discussion

It is thus evident that a large percentage of patients with psychogenic chest pain attempt to hide their anxiety from the physician, especially during the initial part of the consultation. This is particularly so in those with no organic disease. This resistance is penetrated by repeated or specific questioning, and by a complete examination and reassurance. Quite striking was the willingness of these patients to give vent to their apprehension more freely to the nurse than to the physician. That patients are less guarded in their remarks to nurses has been commented on by others.[2] This suggests that a preliminary interview with a capable nurse would be most rewarding.

Undoubtedly there is an uncertainty in the fears of many of these patients, and a submerged hope that their apprehension is groundless; they dare not suggest to the physician, the final judge, that they have a grave condition. Those with known organic disease or those who have been told so have already been given a verdict and hence speak more frankly. Specific mentioning of the feared disease by the physician also breaks the ice.

The value of free discussion and reassurance, particularly specific reassurance, is well established. Usually the alert, experienced physician can pinpoint the focus of anxiety. In the instance of chest pain, the usual sources of anxiety are few. Heart disease is by far the most common, but cancer, tuberculosis, and emphysema are occasional causes for concern. If the physician states, "Your heart and lungs are OK," he would include most cases.

This study suggests that direct questioning might at times be helpful in localizing the site of anxiety. But, particularly, might it be useful in evoking more frank discussion of the problem.

Summary

In a study of 170 patients with predominantly psychogenic chest pain, it was found that relatively few patients voluntarily told the physician why they were anxious, nor did many respond affirmatively to a single inquiry of a general nature at the beginning of the consultation. Repetition of the question, asking specifically about the disease that was feared, and delaying the questioning until after a complete examination, with reassurance, were all more effective in eliciting a positive reply. Patients were more frank with the nurse than with the physician.

Acknowledgement: Gladys J. Askey, RN, and Jean B. Nuckols, RN, assisted in this study.

References

1. Cope RL: The psychogenic factor in chest pain. Texas Medicine 65:78-81, 1969.
2. Hackett TP, Cassem NH, Wishnie H: Detection and treatment of anxiety in the coronary care unit. Amer Heart J 78:272-730, 1969.

Dr. Cope, VA Outpatient Clinic, 307 Dwyer, San Antonio, Texas 78285.

Chest pain and abnormal postexercise ECG's with normal coronary arteriograms in patients with click-late systolic murmur syndrome

Seventeen patients presenting with chest pain and/or abnormal resting electrocardiograms were evaluated. Sixteen of the patients were female. Because of the chest pain and abnormal ECGs, eleven patients had been treated as having coronary artery disease prior to this evaluation. All of them had either a mid-systolic click, a mid- to late systolic murmur, or both. The Master's ECG was positive and the selective coronary arteriogram was normal in every case.

In our experience, propranolol hydrochloride was the most effective drug in treating the chest discomfort and arrhythmia associated with this entity. Although some mild functional impairment does occur with the "click-late systolic murmur" syndrome, the long-term outlook appears to be good. Careful evaluation of patients with chest pain and ECG abnormalities for clicks and murmurs is encouraged to separate this group of patients from those with coronary artery disease.

The evaluation of chest pain occupies the time of many physicians today, as it has in years past. Various parameters, such as the history, physical examination, chest roentgenogram, and the ECG at rest and after exercise, are important in the determination of the cause of the chest pain. Mid-systolic clicks and late systolic murmurs are two important physical findings which are frequently overlooked or not recognized as being associated with chest pain. The association of these two physical findings with certain features in the history and characteristic ECG features should enable the clinician to diagnose the click-late systolic murmur syndrome with a high degree of accuracy. This syndrome also has been referred to as the "ECG-auscultatory syndrome,"[1] the "click syndrome," and the "floppy valve syndrome."[2]

The physical findings, angiographic features, and resting ECG abnormalities of this syndrome have been well described. The purpose of this article is to present a series of 17 patients with chest pain, characteristic auscultatory findings, and variable ECG changes at rest. These patients had abnormal postexercise ECGs which raised the serious consideration of underlying coronary artery disease. In each, results of coronary cine-angiography were normal and prolapse of the posterior leaflet of the mitral valve was demonstrated. The chest pain, associated symptomatology, ECG features, and clinical importance of this syndrome will be discussed.

Methods

Seventeen patients, 16 female and 1 male, between the ages of 29 and 64 years were evaluated. A careful history and physical examination were done on each patient and most had phonocardiograms performed. Chest x-rays, ECGs at rest and after exercise, and cine-angiograms of the left ventricle and coronary arteries were done in each patient. Left ventricular cine-angiograms were all done in the right anterior oblique view and the selective coronary arteriograms were done by the Sones' technique. Left ventricular and aortic root pressures were measured in every case. The exercise ECGs were performed by the method of Master.

The majority of the patients sought cardiac evaluation because of chest pain alone. Chest pain with palpitations (3/17) and abnormal resting ECGs (1/17) were additional reasons for the referral of these patients (Fig 1). Some had associated profound fatigue and shortness of breath. Palpitations were a major complaint in four cases. No patient was referred for the evaluation of the click or murmur alone.

Louis L. Leatherman, MD

Charles A. Armbrust, MD

Robert J. Hall, MD

Bernardo Treistman, MD

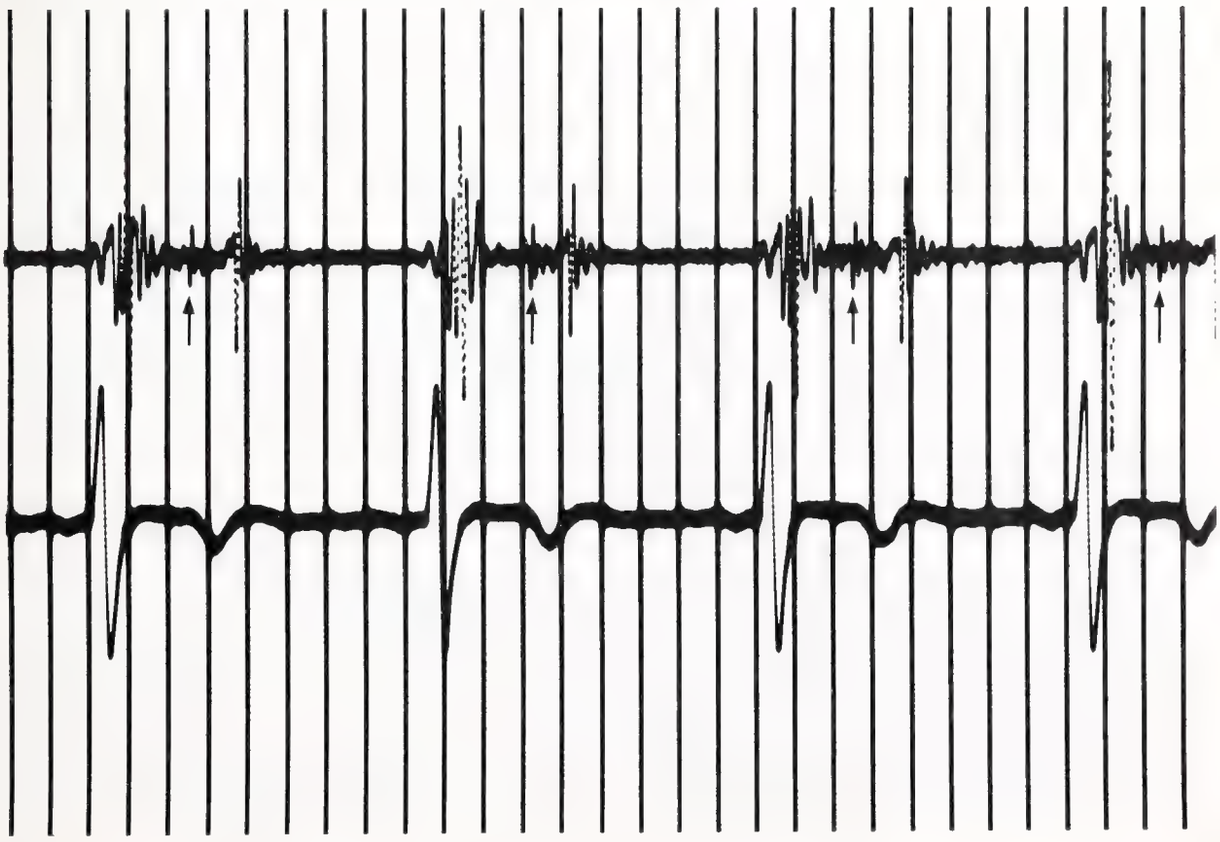
Patient	Age	Sex	Chest Pain	Palpitations	SOB	MSC	LSM	ECG Ectopy	ECG T	ECG ST	ECG Exercise	Treated as CAD
JD	48	F	Typical	++	—	+	+	+++	↓	—	Positive	+
DM	42	F	Typical	—	+	+	—	—	—	—	Positive	+
*VW	43	F	Mild Atypical	++++	—	+	+	+	—	↓	Positive	—
*PH	51	F	Atypical	++++	—	+	+	—	—	↓	Positive	—
†PD	36	M	Mild Atypical	++	—	+	+	—	—	—	Positive	—
MS	54	F	Atypical	++	+	+	+	—	—	—	Positive	+
JB	44	F	Atypical	++++	—	+	+	+++	↓	↓	Positive	+
ST	34	F	Atypical	++	+	+	—	—	—	↓	Positive	+
BS	58	F	Atypical	++	—	+	+	+++	↓	↓	Positive	+
JH	38	F	Atypical	—	—	+	—	—	↓	↓	Positive	—
SF	29	F	Atypical	++	+	+	+	—	↓	↓	Positive	+
EM	50	F	Atypical	++	+	+	+	—	↓	↓	Positive	+
MH	49	F	Atypical	—	—	+	—	—	—	—	Positive	+
SM	55	F	Atypical	++	+	+	—	—	—	↓	Positive	+
PN	40	F	Atypical	++	+	+	—	—	↓	↓	Positive	+
LT	49	F	Atypical	++	—	+	+	—	↓	↓	Positive	—
MG	64	F	Atypical	+++	—	+	—	+	—	—	Positive	—

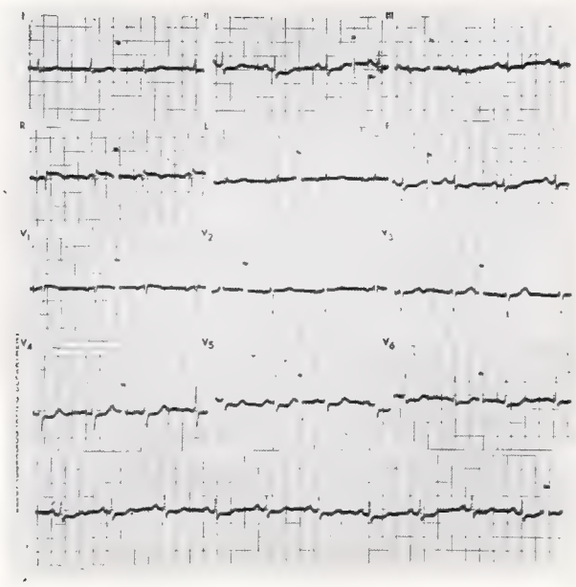
CAD: coronary artery disease
ECG: electrocardiogram
LSM: late systolic murmur
MSC: mid-systolic click
SOB: shortness of breath

*Presented for evaluation because of ectopy
†Presented for evaluation because of abnormal electrocardiogram

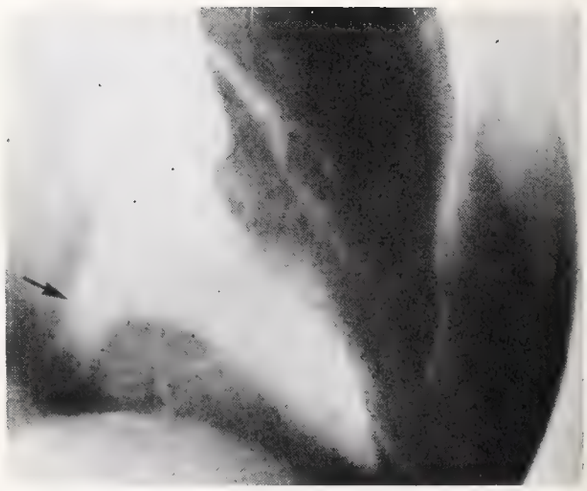
1. Patients studied.

2. Arrows indicate the mid-systolic click in this phonocardiogram.



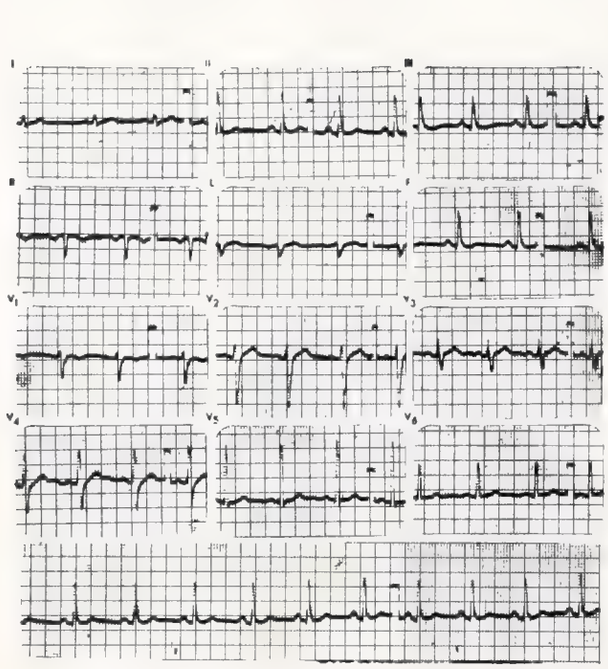


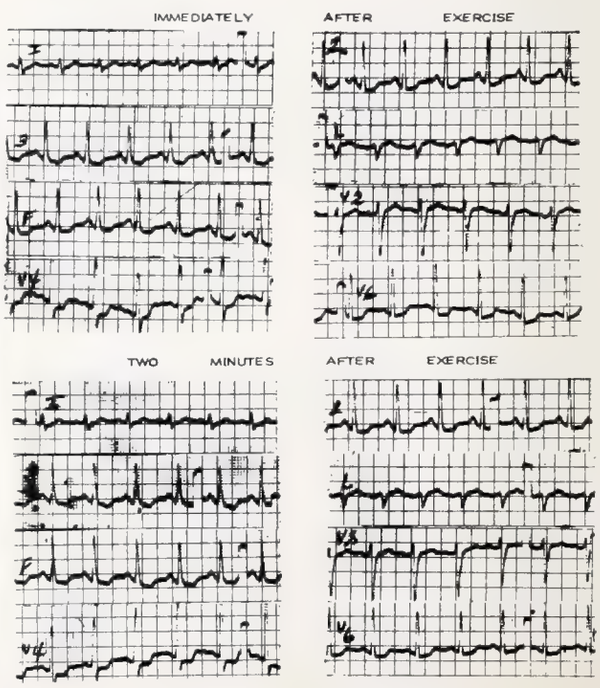
3. Resting ECG.



5. Arrows indicate the prolapse of the posterior leaflet of the mitral valve into the left atrium in this right ventricular angiogram done in the left anterior oblique projection.

4. Post-exercise ECG.





Results

A mid-systolic click was audible in all 17 cases. An associated late systolic murmur (Fig 2) was present in 10 of our 17 cases. The murmur begins in midsystole and usually has a crescendo quality in the supine position. The murmur frequently will change to holosystolic with assumption of the upright position. The click and murmur are usually best heard over the apex and may be accentuated by turning the patient to the left lateral position.

The resting ECG in 5 of the cases was interpreted as normal; 1 revealed T-wave changes in leads II and III. Eleven of the resting ECGs had ST-T wave changes in inferior and/or lateral precordial leads (Fig 3). No important S-T elevation or Q-waves suggestive of infarction were noted. Ectopy was seen in the resting ECG in 4 patients. All of the patients demonstrated S-T depression of 0.5 to 1.0 mm after exercise (Fig 4), with the S-T segment returning to normal in six minutes. Ventricular extrasystoles, when present at rest, increased in frequency with exercise. A short run of ventricular tachycardia developed in 1 patient after exercise.

Prolapse of the posterior leaflet of the mitral valve into the left atrium (Fig 5) was observed in all the left ventricular cineangiograms. The prolapse of the posterior leaflet is maximal in systole and usually associated with varying degrees of mitral regurgitation angiographically. There was no gradient across the aortic valve and the left ventricular cavity appeared to be otherwise normal in each case. In all 17 patients, roentgenograms of the chest were normal.

Discussion

A history of chest pain in our patients was common. The chest pain usually had features which were atypical for classic angina pectoris and was described as a precordial ache or soreness which would last minutes to hours. Several had chest pain which was indistinguishable from angina and obtained prompt relief with nitroglycerin. We would agree with Humphries and McKusick that in some patients the pain "mimics the syndrome of angina pectoris due to coronary insufficiency."[1] Although not often related to exertion, the pain is frequently relieved by rest. Occasionally, shortness of breath and/or palpitations were associated with the chest pain. There was no history of rheumatic fever or pericarditis in this group of patients.

Although the resting ECG features of this syndrome have been previously described,[3,4] little has appeared in the literature to date regarding the effect of exercise on the ECG in these patients. Shell[5] reported two cases with abnormal post-exercise ECGs. Barlow[4] mentioned two cases in his paper with negative post-exercise ECGs. As part of the complete evaluation of our patients with click-late systolic murmur syndrome, the post-exercise ECG was done. The presence of an abnormal ECG after exercise in a patient with chest pain makes selective coronary cine-angiography imperative in our opinion. We have seen abnormal selective coronary cine-angiography in patients with the click-late systolic murmur syndrome. The development of late systolic murmurs and, occasionally, mid-systolic clicks in patients with coronary artery disease has been noted and is apparently due to changes within the mitral valve complex. The differential diagnosis is difficult in some cases, and coronary cine-angiography plays an important role in the clarification of this problem.

There is little doubt that the click and late systolic murmur in this syndrome originate from the mitral valve and chordae

tendineae. A considerable degree of uncertainty does exist, however, in regard to the genesis of the chest pain, the ECG abnormalities, the extrasystoles, and the profound fatigue observed in this group of patients. Barlow[4] postulated that perhaps the dilated posterior leaflet could, either by pressure or movement of the mitral annulus, distort the circumflex coronary artery. He felt that such distortion could cause occlusion or thrombosis of this vessel and produce posterior ischemia. We have carefully evaluated the circumflex branch and found no evidence of lumen compromise. On the contrary, in most of our cases the circumflex branch was a long, large vessel. Papillary muscle ischemia is another possible cause of the chest pain and ECG abnormalities, but in our opinion a good explanation is not yet available.

The click-late systolic murmur syndrome can present a number of clinical problems, and its recognition and careful evaluation are imperative. The exclusion of coronary artery disease is essential to clearly define future management. Sudden death has been infrequently reported[4,6] and this is probably due to ventricular arrhythmias. Prophylaxis for bacterial endocarditis seems indicated because of the recognized occurrence of endocarditis in some patients with systolic clicks and late systolic murmurs. The familial occurrence of the syndrome has been noted.[5]

Patients with this syndrome in general have a mild functional impairment. Propranolol hydrochloride, in our experience, has been efficacious in relieving the chest pain and controlling the ventricular extrasystoles in some patients. The long-term outlook for these patients appears to be good, although some do progress to consequential mitral insufficiency over a period of years, or to acute rupture of a chorda tendineae. The understanding of their cardiac problem and careful reassurance have been very helpful in overall care in this group of patients. There is still a need to clarify many aspects of this syndrome such as etiology, cause of pain, cause of the arrhythmias, and the cause of the ECG abnormalities.

References

1. Humphries JO, McKusick VA: The differentiation of organic and "innocent" systolic murmurs. Prog Cardiov Dis 5:152-171, 1962.

2. Read RC, Thal AP, Wendt VE: Symptomatic valvular myxomatous transformation (the floppy valve syndrome). A possible *forme fruste* of the Marfan syndrome. Circulation 32:897-910, 1965.

3. Ehlers K, Engle MA, Levin A, et al: Left ventricular abnormality with late mitral insufficiency and abnormal electrocardiogram. Proc Soc Ped Res, 1968. Amer J Cardiol 26:233-340, 1970.

4. Barlow JB, Bosman CK, Pocock WA, et al: Late systolic murmurs and non-ejection ("mid-late") systolic clicks. An analysis of 90 patients. Brit Heart J 30: 203-218, 1968.

5. Shell WE, Walton JA, Clifford ME, et al: The familial occurrence of the syndrome of mid-late systolic click and late systolic murmur. Circulation 39:327-337, 1969.

6. Hancock EW, Cohn K: The syndrome associated with mid-systolic click and late systolic murmur. Amer J Med 41:183-196, 1966.

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Myocardial infarction in the presence of normal coronary arteries

Dan Nourani, MD

Myocardial infarction is commonly the result of arteriosclerotic heart disease.[1] Patients with myocardial infarction usually have a severe obstructive lesion or complete occlusion of at least one of the branches of a coronary artery. Although several patients with myocardial infarction and patent coronary arteries have been reported,[2-5] a well documented myocardial infarction with demonstration of normal coronary trees has been rare.

In a series of 340 patients who were examined by coronary cineangiography, one patient presented the unusual combination of an acute myocardial infarction with clinical, enzymatic, electrocardiographic and vector cardiographic as well as angiographic evidence of myocardial damage with normal coronary artery circulation.

Case Report

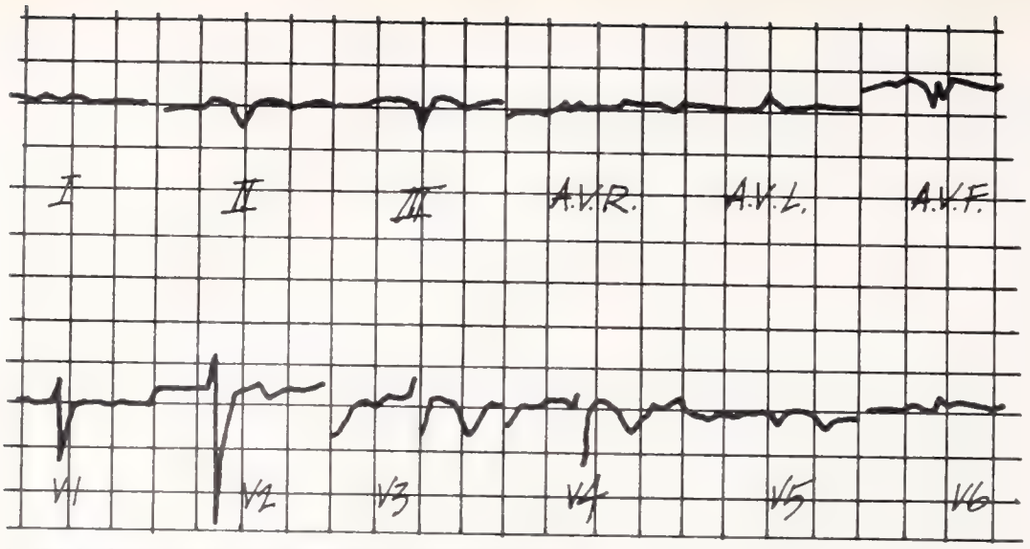
This 48-year-old white woman was admitted to the coronary care unit (CCU) of Odessa Medical Center for the first time on Dec 20, 1969, because of acute myocardial infarction. Her first episode of chest pain occurred four days before, and lasted about 20 minutes. On the day of admission, severe retrosternal chest pain developed with radiation to the left shoulder and arm, and was associated with some nausea and vomiting. She was brought to the emergency room; the ECG showed evidence of acute inferolateral wall myocardial infarction and she was admitted to the CCU. She had no previous history of chest pain on exertion. She was not taking an oral contraceptive. She had a tonsillectomy and adenoidectomy in childhood. Her father died from a cerebral vascular accident at age 64. The patient had once smoked about ten cigarettes daily for about 20 years, but she had stopped smoking 10 years before the infarction occurred. She complained of occasional eczema, but no other abnormalities were found on review of systems.

Physical examination revealed a well developed, well nourished, apprehensive white female in acute distress with pain in the chest. Her pulse rate was 106/minute and regular; blood pressure was 140/90 mm Hg. Examination of the head, eyes, ears, nose, and throat revealed normal fundi. The neck veins were not engorged at 45°. The heart had regular rhythm with occasional extrasystoles. First and second heart sounds were normal. There was no extra sound or murmur. The lungs were clear. The abdomen was soft and there was no organomegaly, however, there was a questionable mass in the right lower quadrant of the abdomen. There was no edema in the extremities.

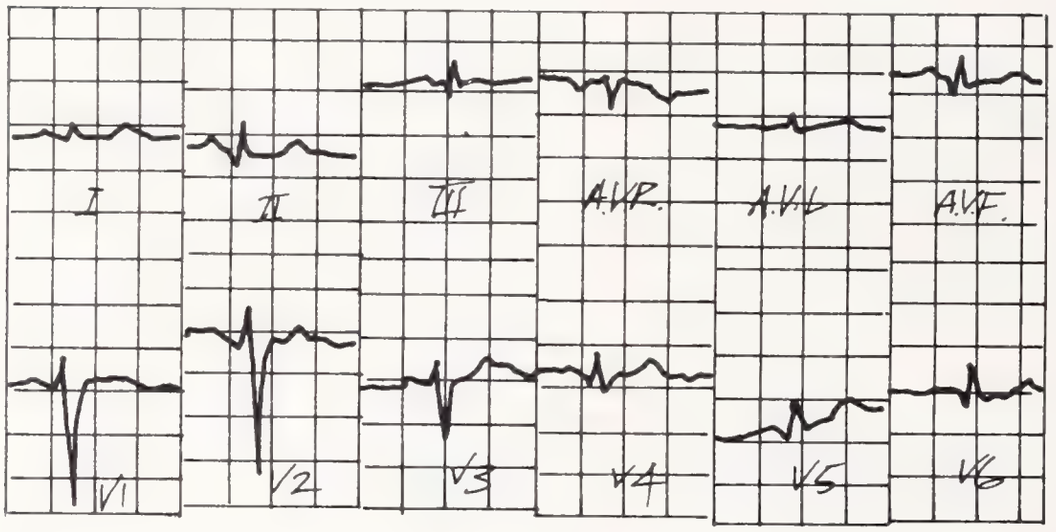
The ECG showed a Q-wave and ST elevation plus T-wave inversion in leads II, III, and AVF. There were also Q-waves in V_4 to V_6, and T-wave inversion in V_3 through V_6 (Fig 1). The serum glutamic oxalacetic transaminase level rose to 122 units and returned to normal within a few days. The serum lactic dehydrogenase level was up to 380 Wacker units on first day. Her temperature was up to 100 F on the second day of admission, and returned to normal on the fourth day. Her serum cholesterol value was 225 mg/100 ml, and triglyceride was 83 mg/100 ml. A glucose tolerance test on the fifth day of hospitalization showed a diabetic curve.

Her hospital course was uncomplicated except for frequent premature ventricular contractions during the first 48 hours of hospitalization which were controlled by Xylocaine drip.

About 28 months after her acute myocardial infarction, this patient was readmitted to the hospital on March 16, 1972, for further evaluation regarding an en-

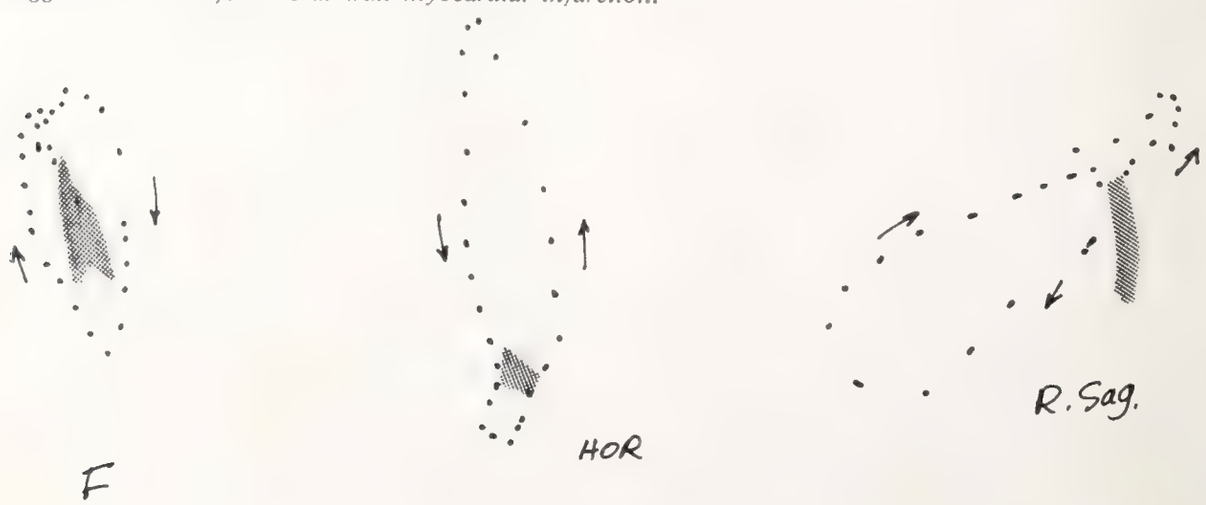


1. ECG during the first admission showing acute inferolateral wall myocardial infarction.



2. ECG 28 months later showing old inferolateral wall myocardial infarction.

3. Superior displacement of the efferent and afferent limbs of QRS vector. Also, significant posterior rotation of the loop suggests an old inferolateral wall myocardial infarction.



larged uterus and bruits over both femoral arteries. Results of the physical examination were not remarkable except that the uterus was enlarged up to two fingers below the umbilicus, and systolic bruits were present over the lower half of the abdomen and both femoral arteries. Dorsalis pedis and posterior tibial pulses were palpable. Her ECG (Fig 2) showed normal sinus rhythm with Q-wave in leads II, III, AVF, and V_4 to V_6, suggestive of an old inferolateral wall myocardial infarction. Her vectorcardiogram revealed superior displacement of the efferent and afferent limbs of the QRS vector. There was also significant posterior rotation of the loop, suggestive of an old inferior wall myocardial infarction (Fig 3). Because her private physician suspected generalized occlusive arterial disease, he referred her for angiographic studies. Selective cine coronary arteriography and left ventriculography, using Sones' technique, as well as an abdominal aortogram and selective renal angiograms were performed. Her dominant right coronary artery was patent throughout, without luminal irregularities or atherosclerotic changes (Fig 4). The left coronary artery also was normal (Fig 5). However, a left ventriculogram showed a well demarcated, localized impairment of the myocardial contractility (Figs 6-7). A renal angiogram was normal and an abdominal aortogram showed no significant obstructive lesion in the proximal part of the arteries to the lower extremities.

Discussion

Considering that inferolateral myocardial infarction is usually associated with complete occlusion or severe obstructive lesions in the main trunk of the dominant right coronary artery or at least one of its major branches (occasionally also seen with obstruction of the circumflex coronary artery when right coronary artery is a nondominant vessel), it is surprising to see a localized inferoapical myocardial infarction with normal coronaries. Proudfit et al[1] from Cleveland Clinic reported only two cases of myocardial infarction with normal coronary arteriogram in a group of 176 cases of myocardial infarction. Dear et al[2] reported one case of documented inferior wall myocardial infarction with a patent dominant right coronary artery in a 43-year-old white man. However, this patient had some atherosclerotic changes in the left coronary artery. Campeau et al[3] have found six cases of myocardial infarction with normal coronary angiograms in a series of 350 patients who underwent a coronary arteriography; however, three patients had embolic phenomena as the origin of infarct.

Eliot et al[4] found abnormal hemoglobin oxygen dissociated in 14 of 15 patients with myocardial ischemia or necrosis in the presence of normal coronary arteries. However, these cases are distinct and are not comparable to the one being described here. Several other explanations have been suggested, such as overlooked lesion, small vessel disease, temporary occlusion by constriction (spasm), recanalization of the previously occluded lumen and nonischemic necrosis, and lysis of the previous thrombus or emboli. Weisse et al[5] noted disappearance of the experimentally induced coronary artery thrombosis in two of ten animals restudied after 30 to 70 days.

Although the exact etiology in this case is not clear, lysis of the previous thrombus or emboli seems more likely. The importance of coronary arteriography in the prognosis and therapy for this patient is obvious. Visualization of the coronary arteries after myocardial infarction may

become increasingly important in the evaluation of such patients.

Summary

Myocardial infarction is usually the result of complete occlusion or severe obstructive lesion in at least one of the branches of the coronary arteries. A 48-year-old white woman, as described, had a well documented inferoapical myocardial infarction documented clinically and also by angiography, but had normal coronary arteriograms 28 months later. Although the exact etiology is not known, lysis of previous thrombus or emboli is the most likely explanation.

References

1. Proudfit WL, Shirey EK, Sones FM Jr: Selective cine coronary arteriography. Correlation with clinical findings in 1,000 patients. Circulation 33:901-910, 1966.

2. Dear HD, Russell RO, Jones WB, et al: Myocardial infarction in the absence of coronary occlusion. Am J Cardiol 28:718-721, 1971.

3. Campeau L, Lesperance J, Bourassa MG, et al: Myocardial infarction without obstructive disease at coronary arteriography. Canad Med Ass J 99:837-843, 1968.

4. Eliot RS, Bratt G: The paradox of myocardial ischemia and necrosis in young women with normal coronary arteriograms. Relation to abnormal hemoglobin-oxygen dissociation. Am J Cardiol 23:633-638, 1969.

5. Weisse AB, Lehan PH, Ettinger PO, et al: The fate of experimentally induced coronary artery thrombosis. Am J Cardiol 23:229-237, 1969.

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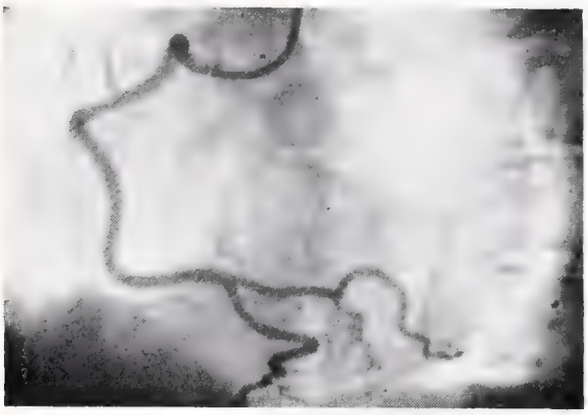
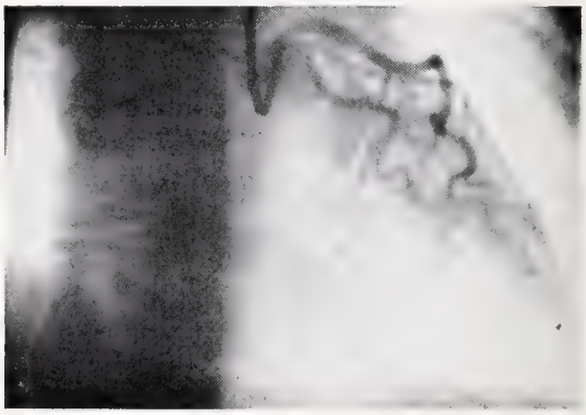
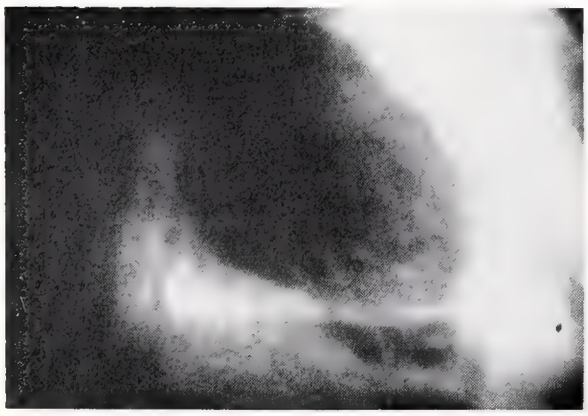


4. Right coronary artery in left anterior oblique projection showing a normal dominant vessel without atherosclerotic changes or obstructive lesion.

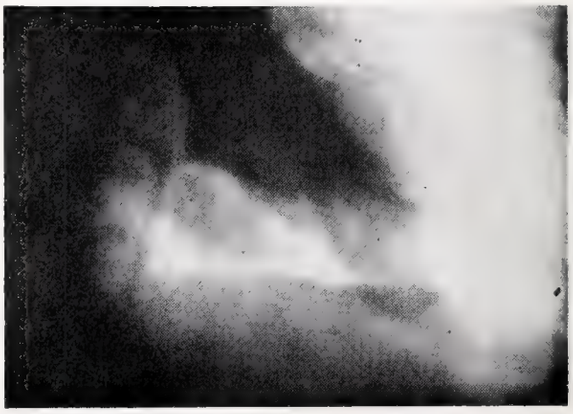


5. Left coronary artery in right anterior oblique projection showing no occlusive lesion or luminal irregularities.

6. Left ventricle in right anterior oblique projection, end of diastole, with normal limits.



7. Left ventricle in right anterior oblique projection, end of systole, showing small localized inferoapical myocardial damage.



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Adverse Reactions: Nausea, headache, anorexia, vomiting, diarrhea, epigastric distress, abdominal cramping, constipation, a metallic, sharp and unpleasant taste, furry or sore tongue, glossitis and stomatitis possibly associated with a sudden overgrowth of *Monilia*, exacerbation of vaginal moniliasis, an occasional reversible moderate leukopenia, dizziness, vertigo, incoordination and ataxia, numbness or paresthesia of an extremity, fleeting joint pains, confusion, irritability, depression, insomnia, mild erythematous eruptions, "weakness," urticaria, flushing, dryness of the mouth, vagina or vulva, pruritus, dysuria, cystitis, a sense of pelvic pressure, dyspareunia, fever, polyuria, incontinence, decrease of libido, nasal congestion, proctitis, pyuria and darkened urine have occurred in patients receiving the drug. Patients receiving Flagyl may experience abdominal distress, nausea, vomiting or headache if alcoholic beverages are consumed. The taste of alcoholic beverages may also be modified. Flattening of the T wave may be seen in ECG tracings.

Dosage and Administration: For Trichomoniasis. *In the female:* One 250-mg. tablet orally three times daily for ten days. Courses may be repeated if required in especially stubborn cases; in such patients an interval of four to six weeks between courses and total and differential leukocyte counts before, during, and after treatment are recommended. Vaginal inserts of 500 mg. are available for use, particularly in stubborn cases. *When the vaginal inserts are used,* one 500-mg. insert is placed high

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For Amebiasis. *Adults:* For acute intestinal amebiasis, 750 mg. orally three times daily for 5 to 10 days. For amebic liver abscess, 500 to 750 mg. orally three times daily for 5 to 10 days. *Children:* 35 to 50 mg./kg. of body weight/24 hours, divided into three doses, orally for ten days.

Dosage forms: Oral tablets 250 mg.
Vaginal inserts 500 mg.

References:

1. Perl, G., and Ragazzoni, H.: Flagyl in Treatment of "Trichomonas Vaginalis" Vaginitis, Obstet. Gynecol. *19*:595-598 (May) 1962. **2.** Kean, B. H.: Trichomoniasis in Males (Letters to the Journal), J. A. M. A. *186*:273 (Oct. 19) 1963. **3.** King, A. J.: Current Therapeutics: CLVI.—Metronidazole in the Treatment of Trichomonal Infections, Practitioner *185*:808-812 (Dec.) 1960. **4.** Watt, L., and Jennison, R. F.: Clinical Evaluation of Metronidazole: A New Systemic Trichomonacide, Br. Med. J. *2*:902-905 (Sept. 24) 1960. **5.** Watt, L., and Jennison, R. F.: Metronidazole Treatment of Trichomoniasis in the Female, Br. Med. J. *1*:276-279 (Feb. 3) 1962. **6.** Teton, J. B., and Treadwell, N. C.: Evaluation of a Systemic Trichomonacide, Obstet. Gynecol. *21*:356-362 (March) 1963. **7.** Durel, P.; Roiron, V.; Siboulet, A., and Borel, L. J.: Systemic Treatment of Human Trichomoniasis with a Derivative of Nitro-Imidazole, 8823 R. P., Br. J. Vener. Dis. *36*:21-26 (March) 1960. **8.** Bertrand, P., and Leulier, J.: Essais cliniques sur la trichomonase des partenaires des femmes infestees (Proceedings of the 1st Canadian Symposium on Non-Gonococcal Urethritis and Human Trichomoniasis, Montreal, 1959), Gynaecologia *149*:93-96 (Suppl.) 1960. **9.** Poole-Wilson, D. S.: The Diagnosis and Management of Chronic Infection of the Bladder, Practitioner *186*:429-437 (April) 1961.

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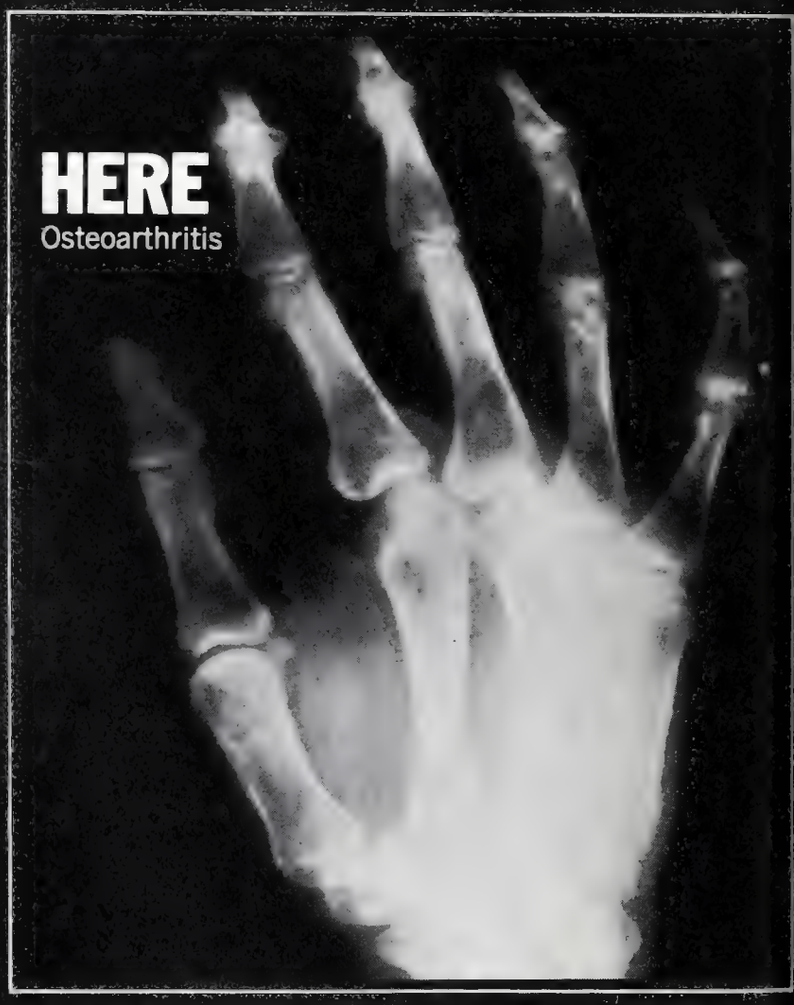

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Recurrent slow sinoatrial node dysfunction (sick sinus syndrome)

Michael B. Raine, MD; Hugh H. Hanson, MD

Chronic, recurrent, slow sinoatrial node dysfunction is frequently mistaken for transient attacks of cerebrovascular insufficiency. It may result in syncope, bradycardia-tachyarrhythmias, and angina. The course is variable, resulting in fairly well documented morbidity; however, the exact mortality remains unknown. Clinical observations on 13 cases are presented here. Permanent ventricular demand pacing resulted in symptomatic relief.

Clinical recognition and successful treatment of complete atrioventricular block is common. However, clinicians are less cognizant of the syndrome of recurrent, slow, sinoatrial node dysfunction. Semantics in this syndrome may be confusing since numerous contributions have been published under various titles—ie, bradycardia-tachycardia syndrome,[1-3] sick sinus syndrome,[4] sluggish sinus syndrome,[5] chronic sinoatrial block,[6] sinoatrial syncope,[7] etc. The syndrome results from dysfunction of sinoatrial node automaticity (sinus bradycardia, sinoatrial block, or sinus arrest) and depression or dysfunction of the atrioventricular junctional escape mechanism resulting in ventricular asystole or various tachyarrhythmias (nodal tachycardia, atrial flutter, atrial fibrillation, etc). Frequently, this may be associated with various conduction disturbances. Clinical manifestations reflect a failure in perfusion of the vital circulations, especially of the brain and heart.

Material and Methods

This material summarizes the experience of the authors in 13 patients with chronic, recurrent, slow sinoatrial node dysfunction observed at the Diagnostic Clinic and Diagnostic Center Hospital. In all patients, drugs (digitalis, quinidine, procaineamide, propranolol, antihypertensive agents and diuretics) were withheld for a sufficient period of time to eliminate their influence on the sinoatrial node. Electrolyte and metabolic derangements were excluded by appropriate tests. When the diagnosis was suspect and the routine electrocardiogram (ECG) failed to show obvious sinoatrial node dysfunction, patients were monitored in the coronary care unit for 72 hours. All patients with syncope received a complete evaluation by a neurologist, and frequently underwent a therapeutic trial which failed to control their syncopal episodes.

After the diagnosis of slow sinoatrial node dysfunction was established, temporary pacing was accomplished with a bipolar right ventricular pacing catheter and demand battery-powered generator. Subsequently, permanent ventricular demand (endocardial or epicardial) pacemakers were implanted for definitive therapy in all instances except one.

Results

Clinical data on these patients are presented in Fig 1. The group ranged in age from 40 to 83 years, averaging approximately 70 years. All were over 60 years of age with the exception of one 40-year-old male with ischemic heart disease. Males were afflicted twice as commonly as females. Two patients had mild diabetes mellitus, two had gout, and four had mild hypertension.

Cerebral arteriosclerosis diagnosed by a previously documented cerebrovascular accident, electroencephalographic findings or cerebral angiography was present in four patients. Ischemic heart disease diagnosed by the presence of classical angina

pectoris, documented previous myocardial infarction, or coronary angiography was present in eight patients. Two patients had both ischemic heart disease and cerebral arteriosclerosis. None of these patients had hemodynamically significant valvular heart disease. A definite diagnosis of cardiac disease other than sino-atrial node dysfunction was absent in five patients; however, in view of their age, a fibrotic or ischemic degenerative process was suspected.

Observed pulse rates varied from 30 to 90 per minute between attacks and were frequently normal. Cardiac examination was normal in seven patients and in six cardiomegaly was present. In the group with cardiomegaly, atrial or ventricular gallop rhythms, or both, were often audible, as well as hemodynamically insignificant ejection and regurgitant murmurs.

Eight patients experienced only episodes of "dizziness," "lightheadedness" and/or true syncope. Two patients experienced episodes of bradycardia which were associated with angina in one patient, and with

1. Clinical data.

CASE NO & PATIENT	AGE YRS.	SEX	B. P. (USUAL)	PULSE RANGE/MIN	SYMPTOMS	EKG	MONITOR PERIODS OF SINUS ARREST IN SECS.	TREATMENT AND RESPONSE
1 - L.S.	70	M	160/100	82-90	Transient syncopal episodes for 10 years.	NSR. PVC's	S.A. arrest to 60 seconds	P.En D.P. 3-1-70 Asymptomatic
2 - M.V.	80	F	160/90	30-60	Episodes of bradycardia with angina 4 years. No syncope	NSR. Periods of S.A. arrest to 2.4 seconds.	S.A. arrest to 3.6 seconds	Nitroglycerin and atropine No change.
3 - M.D.	69	M	170/90	60-72	Frequent episodes of weakness and occassional syncope for 10 years	NSR. Periods of S.A. arrest to 7 seconds.	S.A. arrest to 9.2 seconds	P.En. D.P. 3-1-72 Asymptomatic
4 - O.J.	40	M	108/70	40-63	Transient episodes of syncope for 2½ years.	S.B., PVC's. LaD. Inferior ischemia. Episode of Nodal Tachy.	Periods of S.A. arrest with nodal escape or VPC.	P.Ep. D.P. 3-23-72. Less angina and no synocpe.
5 - A.D.	70	M	150/80	75	Episodes of marked palpitation for 6 years.	NSR. 1° A-V Block L.B.B.B. Periods of S.A. arrest to 2.4 seconds	Periods of S.A. arrest. One episode of atrial flutter.	P. En. D.P. 4-22-71 Asymptomatic
6 - A.S.	68	M	130/90	50-60	Syncopal episodes for 6 years	S.B. LVH. APC's. VPC's.	Periods of S.A. arrest to 6 seconds.	P. Ep. D.P. 3-14-72 Asymptomatic
7 - R.A.	75	M	130/80	72	Episodes of "dizziness" and syncope for 8 weeks.	NSR	Periods of S.A. arrest 2.4 seconds with VPC	P. En. D.P. 4-11-72 Asymptomatic
8 - T.T.	62	F	130/90	40-60	Episodes of bradycardia dyspnea and angina followed by palpitations.	S.B. 1° A-V Block Periods of S.A. arrest to 2.4 seconds		P. Ep. D.P. 5-17-72 Asymptomatic
9 - C.C.	74	M	210/100	42-60	Episodes of "Dizziness" and syncope for 10 years.	NSR. 1° A-V Block VPC's. L.A.D. Periodic Mobitz II. S.A. arrest to 2.8 seconds.		P. Ep. D.P. 4-15-70. No dizziness or syncope. Small CVA, one episode
10 - O.H.	66	M	120/80	42-60	Episodes of bradycardia and syncope followed by tachycardia.	S.B., Nodal escapes	Episodes of S.A. arrest. One episode of atrial flutter.	P. Ep. D.P. 8-1-71 Asymptomatic
11 - M.H.	83	F	140/80	60-80	Transient episodes of syncope for 2 years.	NSR. VPC. LaD RBBB Periods of 1°, 2° and S.A. Block.		P. Ep. D.P. 10-28-71 Asymptomatic
12 - P.F.	65	M	120/80	35-72	Syncopal episodes for 4 weeks.	S.B. or NSR. 1° A-V1 Block.		P. Ep. D.P. 2-9-71. One syncopal episode since
13 - F.M.	78	F	140/90	48-78	Episodes of bradycardia with weakness, angina, and dyspnea followed by palpitations.	NSR. RBBB Periods of S.A. arrest and 2:1 A-V Block.		P. Ep. D.P. 5-19-71 Asymptomatic

NSR = Normal Sinus Rhythm
SB = Sinus Bradycardia
APC = Atrial Premature Contractions
VPC = Ventricular Premature Contractions
SA = Sino-Atrial
LVH = Left Ventricular Hypertrophy
LaD = Left Axsis Deviation
LBBB = Left Bundle-Branch Block
RBBB = Right Bundle Branch Block
P. Ep. D.P. = Permanent Epicardial Demand Pacemaker Implanted
P. En. D.P. = Permanent Edocardial Demand Pacemaker Implanted

confusion or true syncope in the other. Three patients experienced bradycardia-tachycardia syndromes. In two, episodes of bradycardia occurred with weakness, dyspnea and angina and were followed by marked palpitation. The other patient experienced frequent incapacitating episodes of bradycardia followed by severe palpitation.

Routine ECGs were normal in eight patients between episodes or revealed only periods of sinus arrest (2.4 to 7 seconds). Sinus bradycardia was present most of the time in five patients with long periods of sinus arrest. Those patients with bradycardia revealed ventricular premature contractions, nodal escapes and in one instance each, junctional tachycardia and atrial flutter. Transient conduction disturbances were frequent, five patients manifesting episodes of first degree atrioventricular block and three episodes of Mobitz type II block. Permanent conduction disturbances observed were left axis deviation in three patients, left bundle-branch block in one patient, and right bundle-branch block in two.

The eight patients subjected to monitoring revealed periods of sinus bradycardia with premature ventricular contractions, nodal escapes, and periods of sinus arrest varying from 3.6 to 9.3 seconds. Figs 2 and 3 are examples of this phenomenon. After implantation of permanent ventricular demand pacemakers (eight epicardial and four endocardial), the nine patients who had suffered from syncope were relieved of their symptoms. Those patients who suffered from bradycardia-tachyarrhythmia syndromes were relieved of their symptoms only after digitalis and antiarrhythmic agents were used to supplement demand pacing. Angina was much less frequent in the patient who had experienced angina with bradycardia. In the follow-up period, one patient who had both ischemic heart disease and cerebral arteriosclerosis experienced a mild cerebrovascular accident, but remained free of his previous episodes of dizziness and transient syncope. The condition of the patient who was considered to be too infirm for pacemaker implantation has remained unchanged. Follow-up observations revealed that many of these patients have a pacemade rhythm frequently. The usual pacemaker complications have been encountered in the 12 patients who have permanent pacemakers.

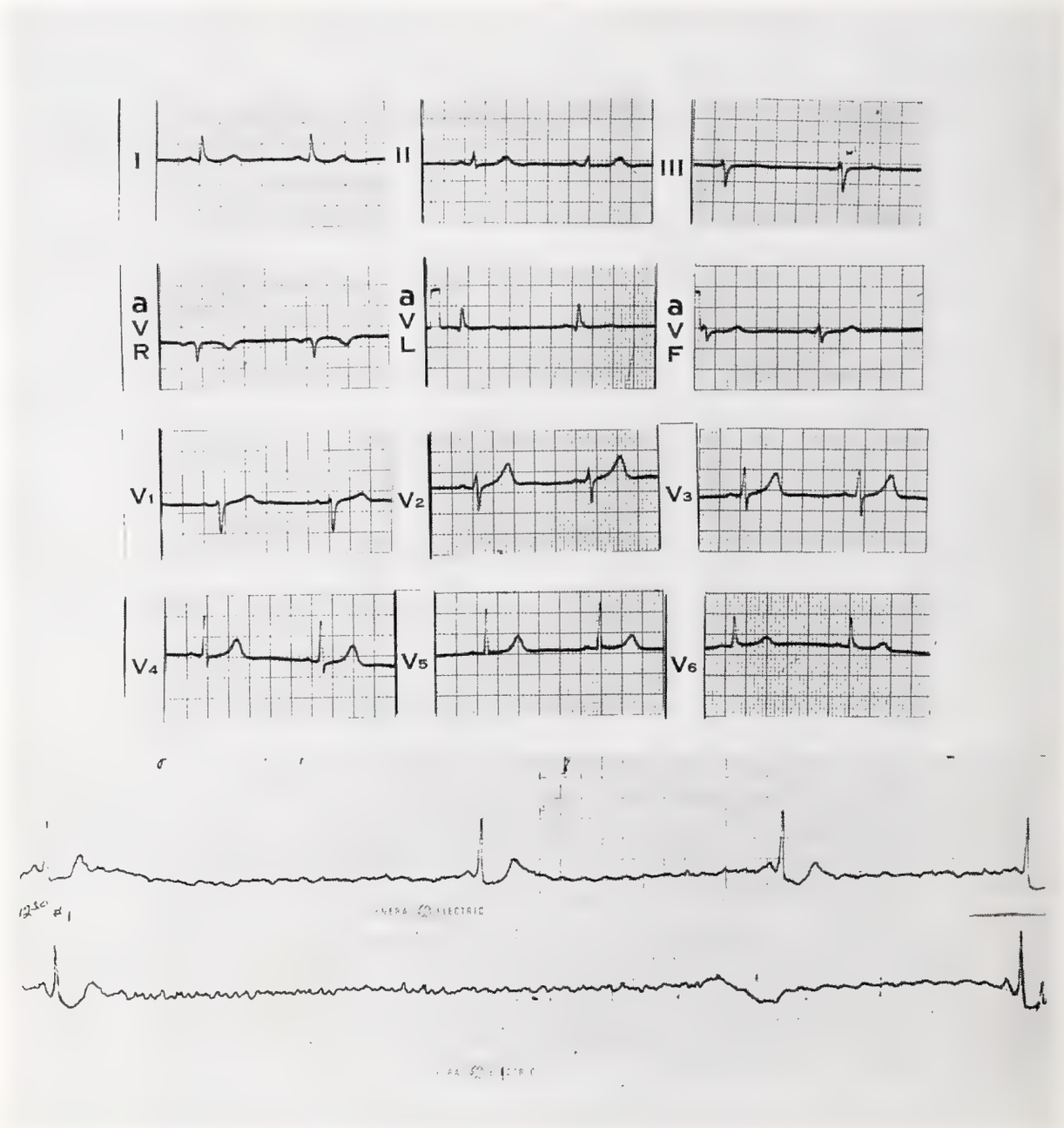
Discussion

Electrocardiographic abnormalities of sinoatrial impulse formation have been appreciated for many years; however, only recently have they received increasing recognition as a clinical syndrome. This syndrome, characterized by periods of sinoatrial slowing or arrest resulting in ventricular asystole, is now responsible for a significant number of permanent pacemaker implantations.[8] Whether this sinoatrial dysfunction is due to arrest of sinoatrial impulse formation, subthreshold stimulus, or block of impulse propagation is conjectural since sinoatrial node activity per se cannot be measured.[9] The bradyarrhythmia produced by this sinoatrial dysfunction predisposes to ectopic tachyarrhythmias,[10] and causes cerebral hypoperfusion and dysfunction. Syncope, the dominant symptom, occurs during extreme bradycardia or asystole. The periods of asystole may follow cessation of tachyarrhythmia which have further depressed sinoatrial function.[1] Rosen[11] has shown by atrial pacing studies in these individuals, a depressed automaticity of the sinoatrial

node following rapid atrial rates. Although many will show an increased sinoatrial rate with exercise and parenteral atropine, their response is diminished. The clinical spectrum associated with this syndrome varies from asymptomatic bradycardia to recurrent episodes of lightheadedness, dizziness, syncope, palpitations, angina, and congestive heart failure.

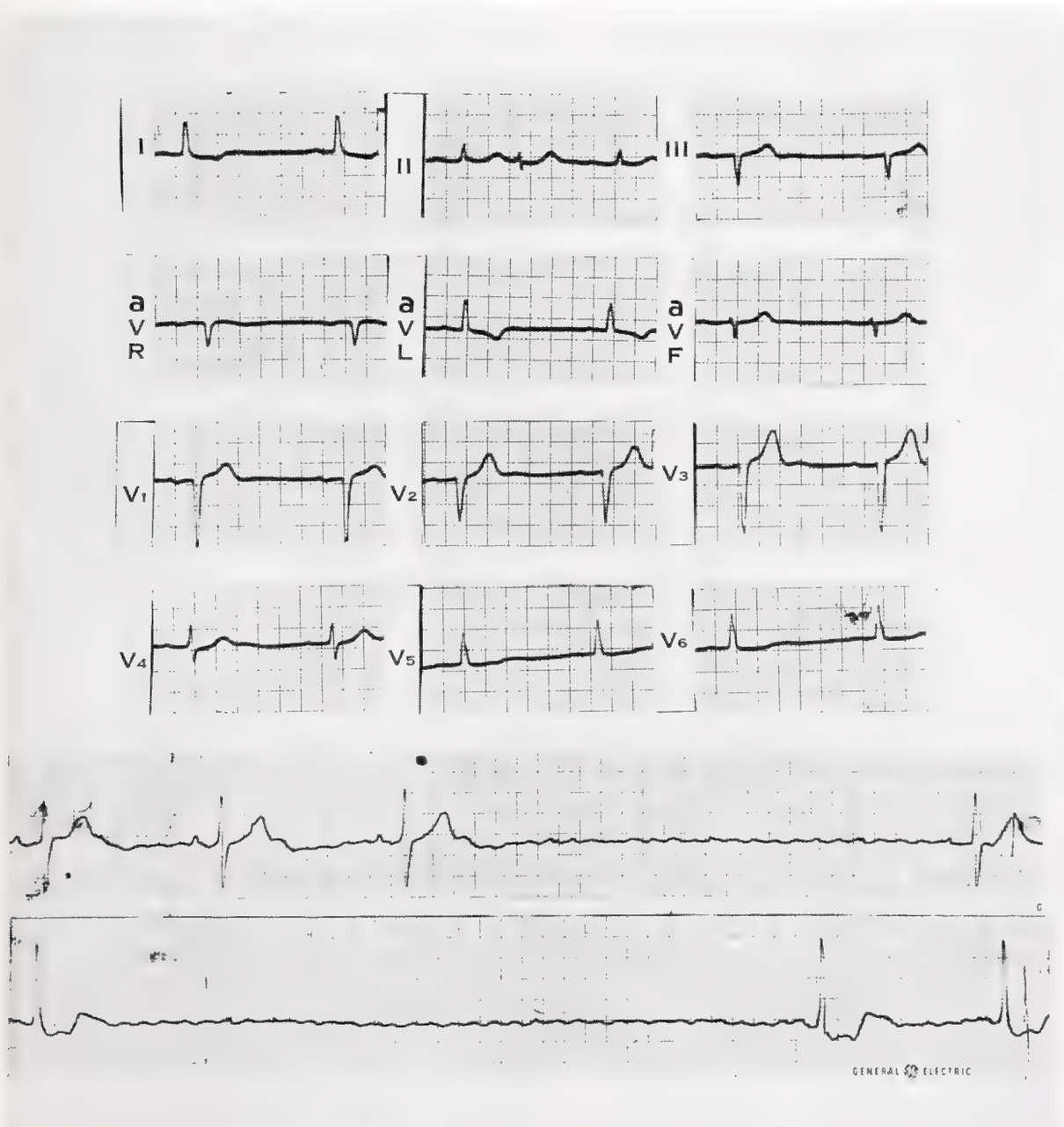
Causes of this syndrome are multiple. There is ample documentation of its occurrence in coronary heart disease.[12,13] The artery to the sinoatrial node is a branch of the proximal right coronary artery in 60% of the population, and of the proximal left circumflex artery in the remainder. James[10] has pointed out that occlusion of these respective coronary artery sites

2. Routine electrocardiogram, normal. The monitor trace reveals periods of sinoatrial arrest varying from 2.3 to 9.3 seconds.



can be predicted when sinoatrial arrest or atrial fibrillation occurs in association with acute inferior (RCA) or lateral (LCA) infarction. The incidence of sinus arrest in acute myocardial infarction was reported as 2% by Rakseth, et al[12]; however, pacemakers were required by only 3 of the 32 patients in which it occurred. Sinoatrial arrest has been induced by a number

3. The routine electrocardiogram reveals sinus bradycardia, first-degree atrioventricular block, anterolateral ischemia, and an anteroseptal scar. The monitor trace reveals sinus bradycardia at a rate of 35 beats/minute with periods of sinoatrial arrest ranging from 5.4 to 7.4 seconds.



of drugs including digitalis, quinidine, propranolol, reserpine and lidocaine.[14] Metzger[15] called attention to its occurrence with malignant invasion of the atrium, and Spellberg[16] found it to be familial at times. Hyperkalemia, myocarditis of various types, amyloidosis, and various cardiomyopathies may be associated with sinoatrial node dysfunction. In this series, eight patients had definite evidence of ischemic heart disease and in five, the etiology was unknown. Since many patients were elderly, they may have suffered from degenerative changes in the sinoatrial node tissue similar to those frequently observed in the conduction tissue of patients with atrioventricular block. This is further supported by the commonly associated findings of atrioventricular and intraventricular conduction abnormalities.[6,11] Seven of these patients showed associated defects. Normal junctional escape rhythms are absent in this syndrome despite extreme sinoatrial slowing. There is also absence of serious ventricular arrhythmias. Treatment of the "sick sinus syndrome," excluding drug-induced cases, is permanent ventricular pacemaker implantation. The response to medical therapy including atropine, ephedrine, and Isuprel has been totally unsatisfactory. Depressant drugs including quinidine, procaineamide and propranolol for management of the associated tachyarrhythmias are contraindicated prior to pacemaker support. The pacemaker should be ventricular (endocardial or epicardial) because of the associated conduction defects which may be present, and demand pacers seem preferable to avoid competitive rhythms. The response to permanent ventricular demand pacing in this group of patients has been excellent with satisfactory control of disabling symptoms. The frequently encountered long history of symptoms prior to definitive treatment in this group of patients would lead one to assume that they have a better prognosis than those patients with atrioventricular block, but that they remain symptomatic.

Summary

1. The clinical observations in 13 cases of chronic, recurrent, slow, sinoatrial node dysfunction have been presented.
2. The syndrome is variable is its clinical manifestations, more prevalent than previously recognized, and tends to occur in older patients with degenerative diseases.
3. Patients who experience only "dizzy spells" and syncope may have completely normal routine ECGs and require monitoring to elucidate their sinoatrial node dysfunction.
4. Pacemaker support is essential for the safe use of digitalis and cardiac depressant drugs in these patients.
5. The symptomatic response to permanent demand ventricular pacing is excellent.

References

1. Short DS: Syndrome of alternating bradycardia and tachycardia. Br Heart J 16:208-214, 1954.
2. Cheng TO: Transvenous ventricular pacing in the treatment of paroxysmal atrial tachyarrhythmias alternating with sinus bradycardia and standstill. Am J Cardiol 22:874-879, 1968.
3. Zipes DP, Wallace AG, Sealy WC, et al: Artificial atrial and ventricular pacing in the treatment of arrhythmias. Ann Intern Med 70:885-896, 1969.
4. Lown B: Electrical reversion of cardiac arrhythmias. Br Heart J 29:469-489, 1967.
5. Tabatznik B, Mower MM, Samson EB, et al: Syn-

cope in the "sluggish sinus node syndrome."Circulation. 40 (supp III): 200, 1969.

6. Rasmussen K: Chronic sinoatrial heart block. Am Heart J 81:39-47, 1971.

7. Easley RM Jr, Goldstein S: Sinoatrial syncope. Am J Med 50:166-177, 1971.

8. Fowler NO, Fenton JC, Conway GF: Syncope and cerebral dysfunction caused by bradycardia without atrioventricular block. Am Heart J 80:303-312, 1970.

9. Scherf D: The mechanism of sinoatrial block. Am J Cardiol 23:769-770, 1969.

10. James TN: Myocardial infarction and atrial arrhythmias. Circulation 24:761-776, 1961.

11. Rosen KM, Loeb HS, Sinno MZ, et al: Cardiac conduction in patients with symptomatic sinus node disease. Circulation 43:836-844, 1971.

12. Rokseth R, Hatle L: Sinus arrest in acute myocardial infarction. Br Heart J 33:639-642, 1971.

13. Lippestad CT, Marton RF: Sinus arrest in proximal right coronary artery occlusion. Am Heart J 74: 551-556, 1967.

14. Lippestad CT, Forfang K: Production of sinus arrest by lidocaine. Br Med J 1:537, 1971.

15. Metzger AL, Goldbarg AN, Hunter RL: Sick sinus node syndrome as the presenting manifestation of reticulum cell sarcoma. Chest 60:602-604, 1971.

16. Spellberg RD: Familial sinus node disease. Chest 60:246-251, 1971.

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Cross-species transmission of mammalian RNA tumor viruses

Koshi Maruyama, MD; Leon Dmochowski, MD, PhD

Rats infected as neonates by mouse Friend leukemia virus were immunologically tolerant in various degrees to the virus in later life and developed tumors in the reticuloendothelial system. Rat tumor cells carried antigens common to mouse virus. The rat virus, although found to be morphologically similar and to elicit neutralizing antibodies to the mouse virus in some rats, failed to induce leukemia in susceptible mice. The rat virus displayed an increased oncogenicity but reduced immunogenicity in rats.

Rats neonatally inoculated with feline tumor cells induced by feline sarcoma virus developed transplantable sarcomas. Results of immunofluorescence studies of rat tumor cells with antisera to feline leukemia virus have demonstrated the presence of antigens common to feline leukemia virus in the cytoplasm of rat tumor cells. Some tumor-bearing rats developed antibodies which precipitated ether-soluble components of the feline leukemia virus particles.

RNA-containing tumor viruses classified as type C virus particles are known to cause leukemias, lymphomas, and sarcomas in animals of a wide range of species including nonhuman primates. Type C virus particles isolated from animals of different species have remarkable similarities in morphological, physical, and chemical properties. Although the natural host range is known to be different, many viruses of this group can infect cells of other animal species and of man, and produce morphological alteration of infected cells. Some type C viruses have been shown to be capable of producing malignancies in animals of species other than native hosts.

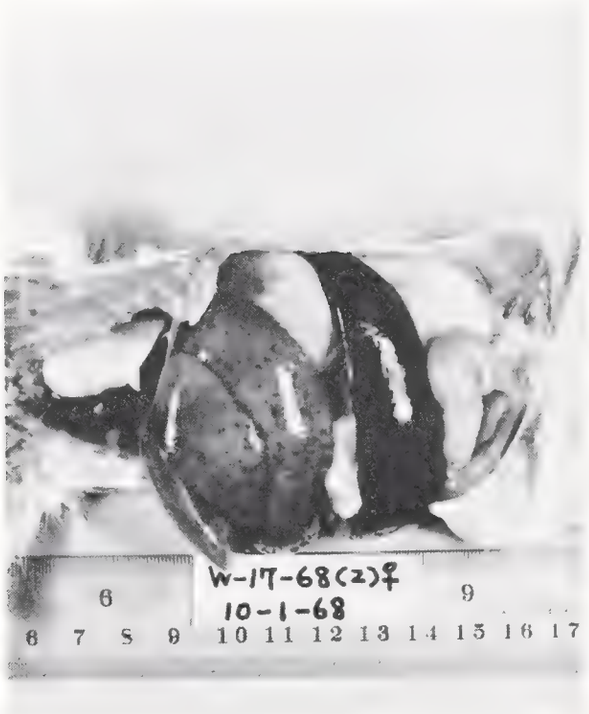
Recently, two types of structural subunits have been isolated from some type C RNA tumor virus particles. One type is known to be common to the viruses of a particular animal species and called "species specific" or "gs-1" antigen. The other has been shown to be common to the viruses of other species and called "interspecies specific" or "gs-3" antigen. These antigenic components were reported to be intimately related and present in the internal part of the virion.[1-4] However, results of more recent studies have suggested the possible presence of some gs antigenic determinants in the viral envelope.[5,6]

Results of our previous studies using the mixed hemadsorption test, which is highly sensitive for detection of various antigenic determinants on the surface of living cells, have demonstrated that cells infected by type C virus particles and derived from animals of different species have shared antigens on the cell surface.[7-9] Results of our recent studies of murine leukemia virus grown in mouse and human cells, and of feline leukemia virus grown in cat and human cells by immunoferritin tests using rabbit or goat antisera to murine or feline leukemia virus, have demonstrated shared envelope antigens in murine and feline leukemia viruses and also in those viruses grown in human cells.[10] In these studies, the appearance of new antigens shared by murine and feline leu-

This study was supported in part by USPHS Contract No. PH 43-NCI-E-65-604, within the Special Virus Cancer Program of the National Cancer Institute, by Grant CA-05831 and Grant RR 5511-10-IN-03 from the National Cancer Institute, USPHS, by Grant ACS IN-43-I-13 from the American Cancer Society. Koshi Maruyama is a scholar of Leukemia Society of America, Inc. This study was presented at the Forum of Original Research, 105th Annual Session of Texas Medical Association, San Antonio, Texas, May 11, 1972.

Total number of rats inoculated when newborn	94
Number of rats which developed splenic tumor	74
Percent of splenic tumor incidence	78.7
Mean latent period (days)	180
Mean weight of the spleen (g)	3.2
Percent of positive rats in MFLV bioassay in mice	
with splenomegaly	95.2
without splenomegaly	33.3

1. Experimental induction of splenic tumors by mouse Friend leukemia virus (MFLV) in Wistar rats.



2. Appearance of a Wistar strain rat neonatally inoculated with mouse Friend leukemia virus (134 days after intraperitoneal injection). Enormous splenohepatomegaly may be seen.

kemia viruses after growth of the viruses in human cells has been observed on the viral surface. The acquisition of genetically stable common surface antigens in virions has been demonstrated in murine RNA tumor viruses after growth in human cells.[11] The question of the relationship of type C RNA tumor viruses of different species grown in cells of original and/or of foreign hosts, including man, deserves further careful studies in view of potential bearing on attempts at demonstration of a virus of this group in human neoplasms.

In the study to be described, type C virus particles of mouse or cat origin were adapted to grow in the rat. Biological and immunological properties of the rat-adapted viruses were compared with those of the original viruses in an attempt to elucidate the relationship of these viruses, and the relationship of neoplasms induced by the same viral agents in animals of different species.

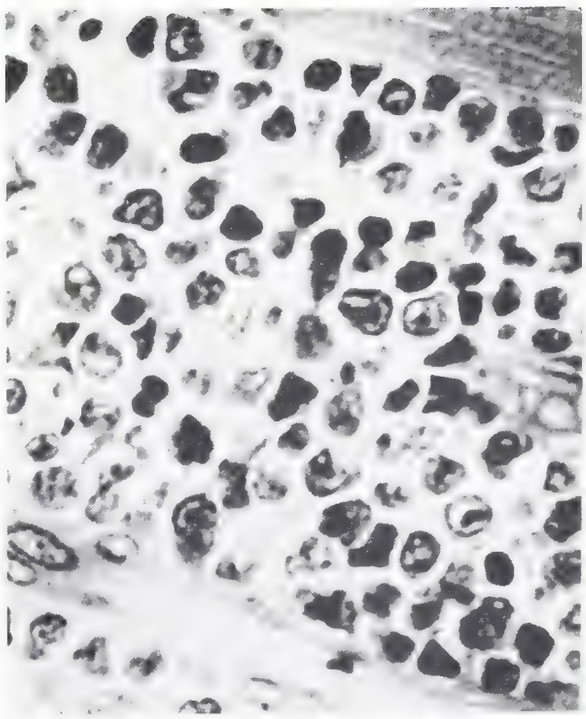
Rat Tumors Induced by Mouse Virus

In earlier studies, we have shown that mouse Friend leukemia virus (MFLV) can replicate for only a limited time in tissues of adult rats. The virus usually disappears from tissues of rats within one week after inoculation. Concurrently, virus-neutralizing antibody can be demonstrated in sera of the inoculated rats. However, rats inoculated with the virus as neonates fail to produce virus-neutralizing antibody and develop tumors in the reticuloendothelial system.[12-14] In the present study, MFLV grown in BALB/c strain mice was inoculated intraperitoneally ($ID_{50} = 10^{2.6}$) into newborn rats of Wistar strain. A summary of induction of splenic tumors in rats is shown in Fig 1. About 80% of the inoculated rats (74 out of 94 rats) developed splen-

ic tumors after a mean latent period of 180 days (Figs 1,2).

No spontaneous tumor was observed in 70 intact Wistar rats of a similar age group during an observation period of over 300 days. Bioassays for the presence of MFLV in the induced tumors were carried out by inoculating 20% extracts of the rat tumors into newborn BALB/c strain mice. About 95% of the splenic tumors tested were positive for MFLV, whereas only 30% of the nonenlarged spleens of the MFLV-inoculated rats were positive. Sera of rats which developed tumors failed to neutralize MFLV. Plasma of such rats contained a large number of type C virus particles. One of the induced tumors was transplanted to syngeneic newborn rats. A tumor which developed at the site of inoculation in one of these rats was transplanted subcutaneously into newborn Wistar rats (Fig 3). Thus, a rat Friend tumor (RFT) line was established and maintained in rats. A large number of type C virus particles which may be designated as rat Friend leukemia virus (RFLV) were continuously released in the transplanted tumors (Fig 4).

Oncogenic activity of RFLV was tested by inoculating RFLV (the filtrate of 20% RFT homogenate) to newborn BALB/c mice and to newborn Wistar rats. Results of bioassays in mice are shown in Fig 5. Ability of the virus to produce Friend disease in newborn mice disappeared after several passages in rats, and thereafter remained negative (Fig 5). However, sera of rats which rejected the tumor grafts neutralized MFLV (Fig 5). Type C virus particles were found in all the tumors examined (Fig 5). Increased oncogenicity of RFLV in rats was demonstrated by production of splenic tumors at a shortened latent period in rats following neonatal inoculation of RFLV. About 86% (36 out of 42

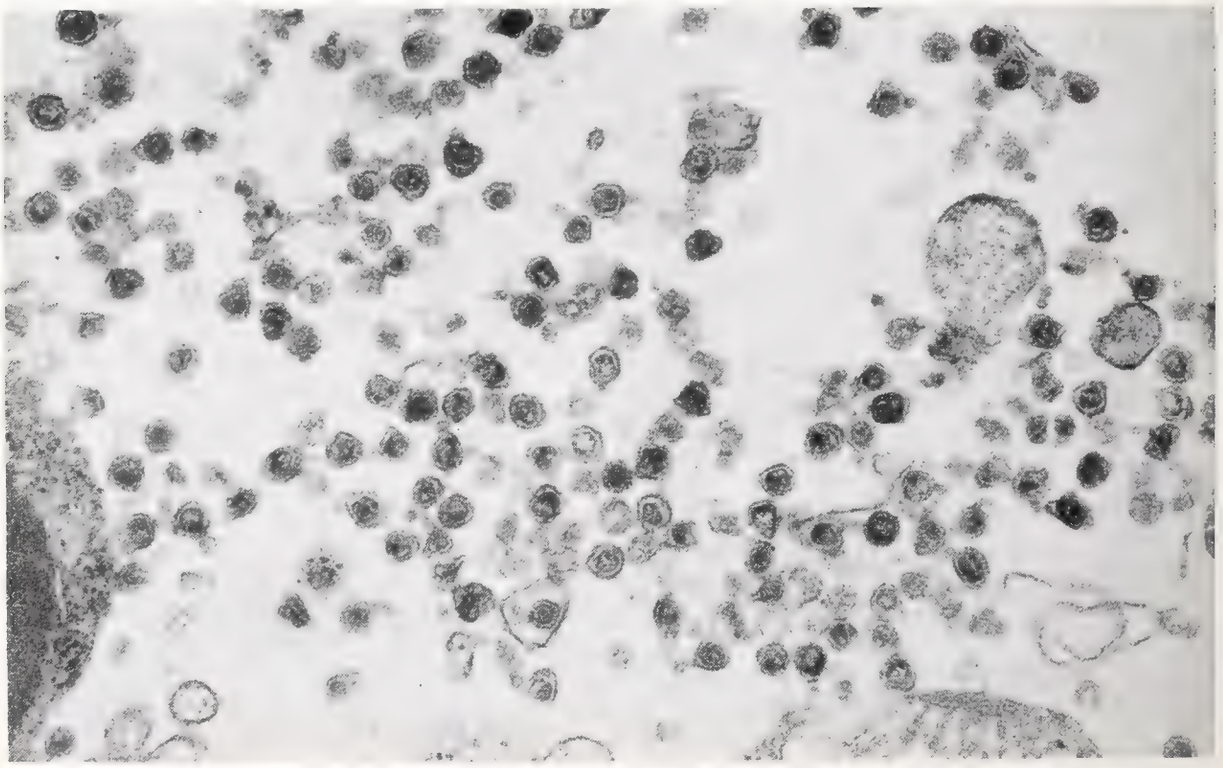


3. Histological appearance of rat Friend tumor in the hind leg of a Wistar rat neonatally transplanted with splenic tumor induced by mouse Friend leukemia virus in a syngeneic rat. Intramuscular invasion by tumor cells may be seen. Hematoxylin and eosin stain, X 897.

rats) of RFLV inoculated rats developed reticulosis of various grades or reticulum cell sarcoma after a mean latent period of 43.9 days (Fig 6). In the tumor tissue, nucleated erythroblasts and enucleated reticulocytes were often encountered. It is of interest to note that virus formation by budding of the plasma membrane has been observed even in denucleated reticulocytes (Fig 7). Peripheral blood of these rats contained erythroblasts at various stages of maturation. These findings indicate that the virus still has affinity for cells of erythroblastic series. In summary of these studies, both viruses (MFLV and RFLV) are morphologically similar (type C) and display tropism for the same type of target cells. MFLV is oncogenic in both mice and rats, whereas RFLV is not oncogenic in mice but exhibits an increased oncogenicity in some rats (Fig 6).

In an attempt to examine the immunological relationship of rat tumor cells and Friend virus of mice and rats, RFT cells were inoculated into rats which received pretreatment of different types. As shown in Fig 8, rats inoculated when newborn with RFLV showed 100% take of RFT cells when examined the seventh day after inoculation. Subsequently, they all died with tumors. Rats inoculated when newborn with MFLV showed 100% take at the seventh day, and 93.3% of these rats died with tumors. Rats inoculated when newborn with formalin-treated MFLV (20% extract of spleen from BALB/c mice with

4. Type C virus particles in the transplanted rat Friend tumor. X 37,840.



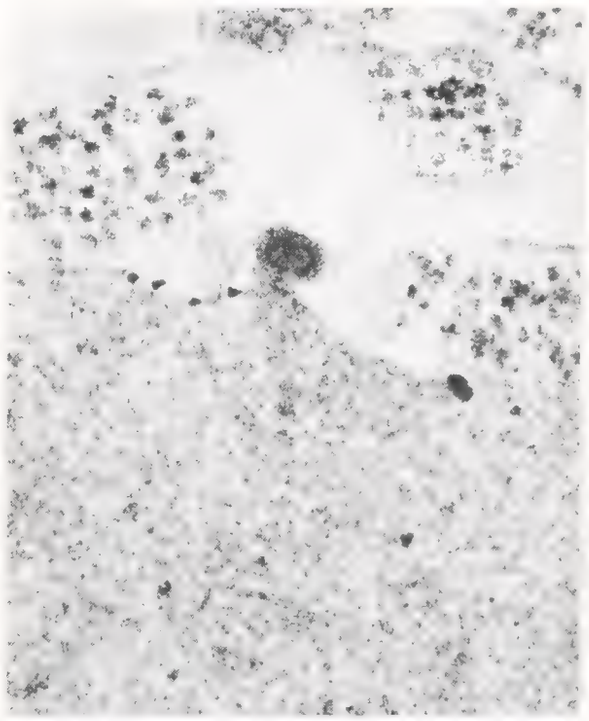
Properties	Mouse Virus (MFLV)	Rat Virus (RFLV)
Morphology	Type C particles	Type C particles
Type of host cells	Erythroblastic series	Erythroblastic series
Oncogenicity in mice	+	—
Oncogenicity in rats	+	+
Latent period for tumor-induction in rats (days)	180	43.9

6. Comparison of Friend leukemia virus in mice and rats.

Passage Number	Production of Friend Disease in Newborn Mice	Neutralizing Antibodies in Sera of Rats Bearing Original Tumors and Rats With Transplanted Tumors	Virus Particles by EM
1	+	—	+
2	+	+	+
3	+	+	+
8	—	—	ND*
9	—	+	+
11	—	+	ND
12	—	+	ND
13	—	ND	+
15	—	—	ND
16	—	+	ND

*Not done. +Denotes presence. —Denotes absence.

5. Alteration of oncogenic activity of Friend virus by passage in rats.



7. A budding type C virus particle at the plasma membrane of a reticulocyte. X 70,400.

8. Transplantability of Friend virus induced tumors of rats to syngeneic rats with different types of pretreatment.

Type of Pretreatment	Transplantation Results			
	Number of Rats Inoculated	Number of Tumor "Takes" (at 7th day post-inoculation)	% of "Take" (at 7th day post-inoculation)	% of Death from Tumor
Inoculation with RFLV when newborn	15	15	100	100
Inoculated with MFLV when newborn	30	30	100	93.3
Inoculated with formalin-inactivated MFLV when newborn	11	11	100	9.1
Whole body X-irradiated	53	32	77.4	60.4
No pretreatment	18	6	33.3	0

Friend disease mixed with formalin in final concentration of 0.1% at 4 C for three weeks) showed 100% take of the RFT cells at the seventh day; thereafter, the tumors gradually regressed in all but one rat, which died with a large tumor. Irradiated rats showed 77.4% take of solid tumor grafts, and 60.4% of these rats died with tumors. Untreated control rats showed only temporary tumor growth in 33.3% of the inoculated rats, but none died with tumors. Therefore, RFT grew well in rats which were apparently immunologically tolerant to RFLV and MFLV, but not in the control rats. The results indicate immunological relatedness of RFLV and MFLV. The exact cause of a low tumor take rate exhibited by rats inoculated with vaccine derived from formalin-treated rats is unknown at the present time. In order to find out whether the rats neonatally infected with RFLV were specifically tolerant to the virus or nonspecifically immunosuppressed, a number of rats which were inoculated with RFLV when newborn and a number of intact control rats were injected with sheep red blood cells. The RFLV-inoculated rats developed hemagglutinating antibody of the same titer as the control rats. These data suggest that the rats neonatally inoculated with RFLV were specifically immune tolerant to the virus.

Immunological Relationship Between MFLV and RFLV

Sera were collected from rats which had different histories of contact with Friend leukemia virus. These sera were tested by cytotoxicity (CT) reaction with RFT cells grown in vivo and by mixed hemadsorption (MHA) reaction with RFT cells grown in vitro. Details of these methods were described elsewhere.[15] Fig 9 shows summary results of these tests. Group A sera were obtained from rats neonatally injected with MFLV. Only 1 out of 35 sera tested was CT positive; 2 out of 35 were MHA positive. Group B sera were obtained from rats neonatally injected with MFLV and then transplanted with RFT during the latent period. Seven out of 31 sera were CT positive; 5 out of 31 were MHA positive. Group C sera were obtained from rats neonatally injected with RFLV. None of 11 sera tested were CT positive; none of 13 were

9. Cytotoxicity (CT) and mixed hemadsorption (MHA) reactions of rat Friend tumor (RFT) with sera of rats with different histories of contact with Friend virus.

Serum Group	History of Donor	CT with RFT Cells	MHA with RFT Cells	MHA with Normal Cells
A	Neonatal injection with MFLV	1/35*	2/35	0/35
B	Neonatal injection with MFLV + Transplant with RFT	7/31	5/31	0/31
C	Neonatal injection with RFLV	0/11	0/13	0/13
D	Neonatal transplant with RFT	6/49	0/43	0/43
E	Intact (control)	0/5	0/6	0/6

*Numerator: Number of sera positive. Denominator: Number of sera tested.

MHA positive. Group D sera were obtained from rats neonatally transplanted with RFT. Six out of 49 were CT positive, while none of 43, including 6 CT positive sera, were MHA positive. Sera which gave strong MHA reaction with cultured RFT cells were prone to give positive CT reaction with some tumors grown in rats. However, many CT positive sera were MHA negative. Apparently, antigenic determinants of the surface of RFT cells grown in vivo are different from those of RFT cells grown in vitro. Group E sera were obtained from intact rats. None out of 5 tested were CT positive, and none out of 6 were MHA positive. None of the sera of the five groups reacted in MHA tests with normal rat cells (Fig 9). These results have further demonstrated the presence of partial immunological tolerance to RFT transplantation antigens in rats neonatally injected with MFLV. The results provide corroborative evidence for shared antigens present in MFLV and RFLV.

In an attempt to ascertain this point, specific immune sera to MFLV or RFLV were used. Methods used to obtain these sera were previously described.[15] Results are shown in Fig 10. In CT tests, mouse anti-MFLV sera were positive with some of the RFT cells grown in vivo. Rat anti-MFLV and rat anti-RFLV sera were both strongly positive by CT test with the RFT cells. Mouse and rabbit anti-RFLV sera were also positive by CT with RFT cells. In addition, mouse antisera[15] to murine leukemia virus of Rauscher strain (anti-MuLV-R) were also positive by CT with RFT cells (Fig 10). In MHA tests using cultured cells, mouse anti-MFLV sera were positive with mouse cells containing MFLV, but negative with normal mouse cells. A few RFT cultures, particularly in early passages, were also positive. However, a majority of cultures of RFT cells and normal rat cells were negative with mouse anti-MFLV sera. Rat anti-MFLV sera were strongly positive with all mouse cell cultures, but they were negative with most of rat cell cultures. Mouse anti-RFLV sera were positive not only with rat cell cultures, but also with mouse cell cultures containing MFLV. However, the same sera were negative with normal mouse cells. Rat anti-RFLV sera were negative with all cell cultures tested (Fig 10).

10. Comparison of Friend virus-induced tumors of mice and rats by cytotoxicity and mixed hemadsorption reactions.

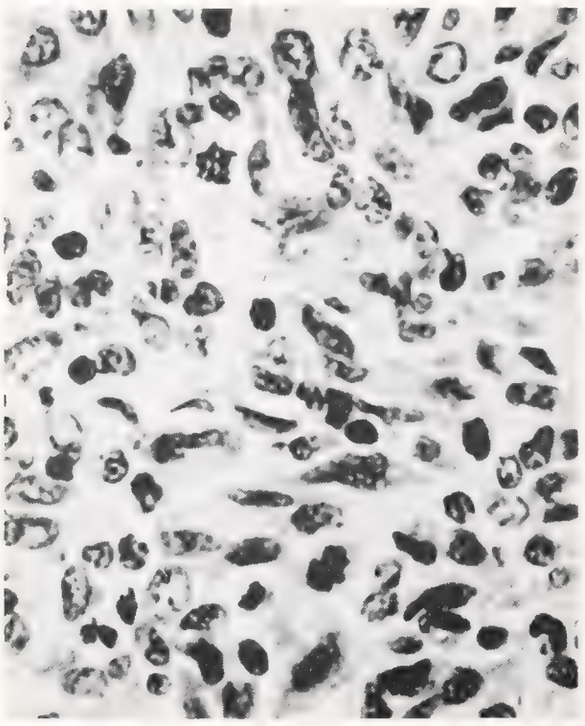
Type of Sera	Cytotoxicity, Rat, Friend Tumor	Mixed Hemadsorption			
		Mouse		Rat	
		Friend Tumor	Normal	Friend Tumor	Normal
Mouse Anti-MFLV	0-4*	16	0	0-2	0
Rat Anti-MFLV	64	1024	16	0-64	0
Mouse Anti-RFLV	16	32	0	1024	256
Rat Anti-RFLV	64	0	0	0	0
Rabbit Anti-RFLV	256	512	0	1024	1024
Mouse Anti-MuLV-R	8	1024	0	0-16	0
Mouse Normal	0	0	0	0	0
Rat Normal	0	0	0	0	0
Rabbit Normal	0	0	0	0	0

*End-point titer.

Thus, RFLV appears to be less immunogenic in rats. These findings show antigenic differences between MFLV and RFLV. The data also indicate that RFT cells generally do not produce the virus of MFLV type at least in appreciable quantity when they are grown in vitro. In contrast, RFT cells grown in vivo still produce cell surface antigens related to MFLV infection. This seems to account for the previously mentioned fact that sera obtained from some rats which were neonatally transplanted with RFT reacted in CT tests with RFT cells grown in vivo, but did not react in MHA tests with RFT cells grown in vitro. Antigenic differences between MFLV and RFLV may result from different properties of the envelope of virus particles. This is supported by the observation with rabbit anti-RFLV sera prepared against disrupted RFLV[15] which were strongly positive with mouse and rat cell cultures containing MFLV or RFLV but negative with normal mouse cell cultures. Mouse anti-MuLV-R sera were positive with both mouse and rat cells containing MFLV or RFLV, but negative with normal cells. Normal mouse, rat, and rabbit sera were all negative by CT and MHA (Fig 10).

In conclusion of these studies, it may be stated that transmission of Friend leukemia virus from mice to rats resulted in alteration of MFLV to RFLV with an increased oncogenicity but reduced immunogenicity to rats.

11. Histological appearance of a tumor induced in a Wistar strain rat following neonatal subcutaneous inoculation of feline tumor cells induced by feline sarcoma virus (151 days after subcutaneous injection). Proliferation of undifferentiated mesenchymal cells may be seen. Hematoxylin and eosin stain, X 897.

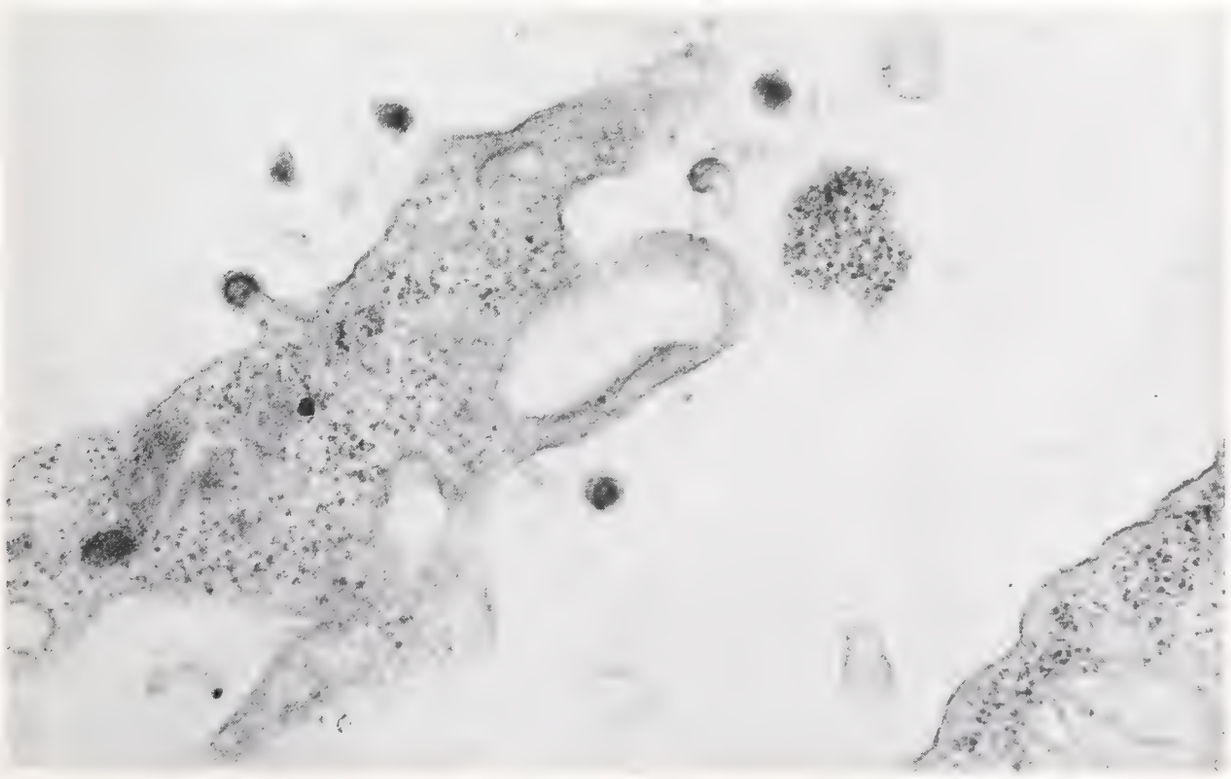


Rat Tumors Induced by Cat Virus

Similar studies were carried out in the feline versus rat system. In this system, feline sarcoma virus of Theilen strain was used. Cat sarcoma induced by feline sarcoma virus was obtained through the courtesy of Dr. Gordon H. Theilen of the University of California. The tissue was injected subcutaneously into kittens in our laboratory. All kittens inoculated developed tumors. Tissues from some of these tumors were injected subcutaneously into a total of 30 newborn rats of Wistar strain. This resulted in nodule formation at the site of injection in seven rats (23%). The nodules appeared within one month after inoculation. They grew for a short period and then regressed. Within two weeks the nodules completely disappeared. However, two to three months after the nodules disappeared, they reappeared in three rats. Each of these three rat tumors was inoculated into newborn Wistar rats. Subsequently, two transplantable tumor lines were obtained and maintained.

Details of these tumors will be reported separately. The original tumors were found to be highly hemorrhagic. Numerous hemorrhagic lesions were found in the lungs of some rats bearing original tumors at the site of injection. It should be pointed out that similar hemorrhagic lesions were also described by Snyder and his associates in the liver and other organs of kittens inoculated with feline sarcoma virus.[16] Histologically, the tumor consisted of undifferentiated mesenchymal cells (Fig 11). Mitotic figures were seen frequently. Occasionally, multinucleated giant cells were encountered. In some areas, the development of argyrophilic fibers was pronounced, indicating possible involvement of endothelial cells in the origin of tumors. However, no specific pattern of cellular arrangement was noted. Hemorrhagic lesions in the lung of some rats histologically resembled hemangioma. Occasionally tumor metastases were observed in rats with the transplanted tumors. It is of interest that some transplanted tumors were also hemangiomatous in their histological appearance. Results of karyological analysis of transplanted tumors at the tenth or higher transplant generations showed that the modal chromosome number was 44. Most large autosomes were acrocentrics or telocentrics, and the small submetacentric marker chromosome for feline species, for example, E 1 chromosome, was not found. Thus, cultured cells from rat tumors are rat cells. Type C virus particles were not found in tumors of one transplanted tumor line so far examined. A relatively small number

12. Type C virus particles and budding particles in a feline sarcoma virus-induced rat tumor. X 39,150.



of virus particles and budding particles were demonstrated in tumors of another line (Fig 12). Oncogenic activity of these virus particles was tested in newborn rats and in newborn kittens. Preliminary results showed that about 28% (11 out of 40) of newborn rats developed hemorrhagic tumors at a mean latent period of 90 days following inoculation of 20% tumor extracts (Fig 13). None of six kittens developed tumors after inoculation of extracts of feline sarcoma virus induced rat tumors which had been passaged in kittens.

In an attempt to investigate the possible relationship of feline sarcoma virus to the origin of the rat tumors, cell cultures derived from the tumors were tested by mixed hemadsorption reaction with goat or rabbit antisera to feline leukemia virus. No positive reactions were observed in repeated tests. Apparently, feline leukemia virus antigens were not expressed at the surface of these rat cells. However, when the rat tumor cells were tested with the same anti-feline leukemia virus sera by indirect immunofluorescence using acetone-fixed cells, cytoplasmic fluorescent reaction was observed in some of the cultured cells. Furthermore, sera of some rats with growing tumors following neonatal transplantation contained antibodies to feline leukemia virus demonstrable in gel diffusion test as a single precipitation band. These positive rat sera did not react with the same virus after Tween-ether treatment. The antibodies present in rat sera may therefore be directed to ether-soluble components of feline leukemia virus particles. The sera of rats with precipitating antibodies did not react by mixed hemadsorption reaction with rat tumor cells and cat tumor cells producing feline leukemia virus particles.

13. Comparison of feline sarcoma virus in felines and in rats.

Properties	Feline Virus	Rat Virus
Morphology	Type C particles	Type C particles
Type of host cells	Endothelial cells	Endothelial cells
Oncogenicity in felines	+	—
Oncogenicity in rats	+	+
Latent period for tumor induction	150	90

Based on these experimental findings, it may be said that feline type C RNA tumor virus is oncogenic not only in felines but also in rats. The virus exhibits tropism to endothelial cells in rats and in felines. However, the rat appears to be "nonpermissive" to the virus and therefore most of rat tumors are "virus-nonproducing." Virus producing tumors are induced in exceptional rats. Type C virus particles found in such tumors produce tumors in newborn rats. Although oncogenicity tests of rat-adapted feline sarcoma virus in felines and in rats are still in progress, results of preliminary studies indicate loss of oncogenicity of the virus in newborn kittens.

Results of experiments reported here show that some mammalian RNA tumor viruses can be adapted to grow and to produce neoplasms of similar histological types in animals of different species. Tumors produced by the same virus in animals of different species share common cytoplasmic or cell-surface antigens. Following cross-species transmission, these viruses show changes in various properties including ability to produce tumors and to elicit immunity in the inoculated animals. The relationship between adapted viruses of heterologous animals and indigenous virus remains to be examined. Further comparative studies of mammalian RNA tumor viruses adapted to grow in cells or animals of different species may prove

helpful to delineate the interrelationship of these viruses and to demonstrate a virus of this group in human neoplasms.

References

1. Gregoriades A, Old LJ: Isolation and some characteristics of a group-specific antigen of the murine leukemia viruses. Virology 37:189-202, 1969.

2. Schäfer W, Anderer FA, Bauer H, et al: Studies on mouse leukemia virus. I. Isolation and characterization of a group-specific antigen. Virology 38:387-394, 1969.

3. Schäfer W, Lange J, Bolognesi DP, et al: Isolation and characterization of two group-specific antigens from feline leukemia virus. Virology 44:73-82, 1971.

4. Gilden RV, Oroszlan S: Structural and immunologic relationships among mammalian C-type viruses. J Amer Vet Med Assoc 158:1099-1104, 1971.

5. Schäfer W, Fischinger PJ, Lange J, et al: Properties of mouse leukemia viruses. I. Characterization of various antisera and serological identification of viral components. Virology 47:197-209, 1972.

6. Schäfer W, Lange J, Fischinger PJ, et al: Properties of mouse leukemia viruses. II. Isolation of viral components. Virology 47:210-228, 1972.

7. Maruyama K, Dmochowski L: Comparative studies of type C virus particle-containing cultures of different animal species by mixed hemadsorption reaction. Texas Rep Biol Med 27:437-456, 1969.

8. Maruyama K, Dmochowski L, Rickard CG: Comparative studies of feline and human leukemia by mixed hemadsorption reaction. Comp Leuk Res Bibl Haemat 36:355-367, 1970.

9. Maruyama K, Dmochowski L, Rickard CG: A search for natural antibody against feline and murine leukemia antigen by mixed hemadsorption test. Colloquium on selected feline infectious diseases. J Amer Vet Med Assoc 158:1076-1084, 1971.

10. Maruyama K, Dmochowski L, Romero JJ, et al: Studies of human cells infected by leukemia viruses. Proc Fifth Internat Symp Comp Leuk Res, Padova-Venice (Sept 13-17), 1971, Bibl Haemat 39, 1973.

11. Aaronson SA: Common genetic alterations of RNA tumor viruses grown in human cells. Nature 230: 445-447, 1971.

12. Maruyama K, Oboshi S: Sequence of experimental inoculation of Friend virus (FV) into adult and newborn Wistar rats. (in Japanese) Tr Soc Path Jap 55: 138, 1966.

13. Maruyama K, Oboshi S: Tumor induction by Friend virus in rat. The Third Gaga Symposium on Cancer. (in Japanese) Jap J Clin Med 24:(Suppl) 46-51, 1966.

14. Maruyama K, Oboshi S: On Friend virus-induced tumors of the rat especially on ascites tumor line (WR-FAT-1). (in Japanese) Proc Jap Cancer Assoc, 25th Annual Meeting. (Dec) 1966, pp 175-176.

15. Maruyama K, Dmochowski L: Studies on the relationship of leukemia in animals and man. Texas Rep Biol Med 29:83-97, 1971.

16. Snyder SP, Theilen GH, Richards WPC: Morphological studies on transmissible feline fibrosarcoma. Cancer Res 30:1658-1667, 1970.

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Prescribing low vision aids: a report from a new low vision clinic

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Why don't most ophthalmologists prescribe devices for the correction of low vision? There are several reasons:

1. Prescribing and fitting low vision aids takes a great deal of time, especially if the practitioner has had little experience in doing so.
2. The wide range in powers and types of aids is confusing and generally not understood, although the aids are classified in catalogues.[4,5]
3. During their residency, ophthalmologists receive little formal training in the principles and practice of fitting low vision aids.
4. It is poorly appreciated that the intact functioning paramacular retina can be used for useful vision with the aid of devices that provide an enlarged retinal image.
5. The prescribing of low vision aids has suffered a bad reputation in the past because of the overuse of telescopic aids by people who are poorly trained in their uses and limitations.

This is a report on a practical technique for prescribing low vision aids, including three illustrative case reports. There is also a summary of the aids prescribed during the first 18 months of operation of the new Hermann Low Vision Aid and Rehabilitation Center in Houston.

With the continued increase of the aging population, and a corresponding increase in the incidence of degenerative ocular disease with its deleterious effect on visual function, the prescribing of low vision aids becomes more important. It is also important to correct children and working adults to make the best use of their vision. (The illustrative cases are all patients under 60!) With the proper application of magnification much can be done in the general ophthalmologist's office to help this group of patients.

Classically, low vision is defined as that level of diminished vision with which the patient can no longer function satisfactorily. It is usually that vision which is less than 20/50 at distance or at equivalent acuity measured at 40 cm (16 inches). Most patients are aware of the functional limitations of their diminished vision when glasses no longer help them to do what they want to do with their eyes, or when no treatment, medical or surgical, will bring their vision back to a satisfactory level. The preferred definition of low vision is a practical clinical working one from the individual patient's point of view. To the machinist, visual limitation may mean not being able to bring the material close enough to work safely at the lathe. To the housewife, it may mean not being able to read labels on cans at the supermarket or read recipes or dials on the stove in the kitchen.

The optical principles of a low vision examination are different from those of refraction. The primary concern of the former is to obtain sufficient magnification of the focused image to improve vision to a satisfactory functional level; whereas, the refraction is concerned with getting a clear image focused on the fovea for the best visual result.

Accurate measurement of corrected visual acuity is important because it is a guide in estimating the add. Most patients with low vision can read only a few letters at the 20 foot test distance. By bringing the letters to 10 feet or 5 feet, a greater number of test letters are available. An artist's easel in the refracting lane functions well for this purpose. If desired, a refraction done at 1.5 meters (5 feet) can be corrected for distance in the final prescription by adding 0.75 diopters to the correction found at 5 feet.

After accurately correcting to the best distance visual acuity, the lowest amount

of add or plus power for the magnification may be calculated by the use of the reciprocal of vision formula of Kestenbaum.[1] This is only a rough guide. The formula requires inversion of the visual acuity to get the lowest starting add. As an example, a visual acuity of 5/80(20/320) would require a reading addition of approximately 16 diopters over the distance prescription (assuming no residual accommodation). Then the near card is read with this correction in place held at the focal distance of the lens. The focal length of a lens is obtained by dividing the dioptric power of the lens in question into 100 cm. For the example above, the card would be held at 6.25 cm. This method assumes that ability to read continuous text is closely related to ability to read isolated capital letters. This is not always clinically correct.

An alternate preferred method is to determine the magnification or add required for easy reading of continuous text. Sloan[3] has designed cards using continuous text in graded magnifications for testing the patient's near vision at the arbitrary test distance of 40 cm. This is the second step after the measurement of distance refraction, and is done with a 2.5 diopter add for the presbyope with no add necessary for the patient who can accommodate 2.5 diopters or more. It is good to start with the larger print cards and work down to the smallest size the patient can comfortably read. The Snellen notation in "M" units is used and these cards give the Snellen distance equivalent calibrated for 40 cm. 1 M print is that print in which the lower case letters subtend an angle of 5 minutes at 1 meter. This is approximately equivalent to the visual angle of 20/50 Snellen letters and of newspaper print, or 9-point type. The magnification required to read newsprint at 40 cm is the rating in "M" units read at that distance with a +2.5 diopter lens over distance correction. This is the important concept to obtain the dioptric power of the lowest add or plus lens to use over the distance correction for reading newspapers. It is calculated by multiplying the "M" unit by 2.5 diopters (the dioptric power for 40 cm, the arbitrary distance for the reading of the test card. Third, the distance at which the near print must be held from the eyes for adequate magnification is obtained by dividing the "M" rating determined by these test cards into 40 cm. If a patient reads 2 M print at 40 cm, he needs 2 times 2.5 diopters, or 5 diopters, as the starting lens for reading the newspaper, and he needs to hold it at one-half the distance to obtain the magnification required, which would be one-half of 40 cm or 20 cm. The reading distance can be seen to be inversely related to the required magnification. The more magnification required, the closer the near print must be held for proper focus. The patient may need less add for the computed reading distance if he can supply some of it by accommodation. Once the practitioner completes these latter two steps (one for the add, the other for the reading distance), after accurate distance refraction (step one), the rest of the examination can be spent in deciding what types of aids best suit the patient's needs.

Since low vision fitting is a remedial and rehabilitative procedure, an explanation of the use and limitations of these aids is necessary. To allow time for this, it is desirable to schedule the low vision exam at a separate time. Another advantage of making low vision appointments at a separate time is that the patient can be instructed to bring all the aids that he has accumulated at home, as well as samples of reading material or of other visual tasks he desires to perform.

Evaluation of the motivation of the pa-

tient also is important. The practice of loaning various aids for home trial is useful to establish acceptance of the tentative aid prior to purchase. The best candidate for the prescription of low vision aids seems to be the intelligent, adaptable, attentive, and motivated patient who wants to improve his visual function and who has accepted his visual limitations. Even with the ideal candidate, however, the examiners' ingenuity and resourcefulness is sometimes required for a successful result.

Knowledge of what is available to prescribe is essential. These aids have been comprehensively classified by Sloan[4] and by the Lighthouse Low Vision Service[5]. They are the headborne (spectacles, jeweler's loupes), hand, and stand magnifiers, both nonfocusable and focusable. Nonfocusable stand magnifiers require a certain amount of accommodation and have to be held away from the eye and used with a standard or higher add for the patient's age to place the eye closer to the magnifier. The powers, magnifications, and sources of supply are listed in the referenced monographs,[4,5] and in Faye's book.[6] Most patients benefit from more than one aid. Many can use a spectacle correction such as a high add bifocal or a single vision near lens as well as a hand magnifier of the same power for pocket or purse. Reading is not the only goal in the fitting of low vision aids. Most patients also wish to do personal, seemingly trivial things such as signing checks or making lists. The fitting of low vision aids requires a philosophy of firm enthusiasm with realistic expectations which can be effectively transmitted to the apprehensive and frequently disillusioned patient.

Illustrative Case Reports

Case 1: Mr. DH, age 31, recently unemployed machinist with presumed hereditary optic atrophy, was referred by a friend. His employer noted that he was getting his head closer and closer to his work and he was dismissed as a danger to himself. Corrected visual acuity was 10/60(20/120) in each eye. He read 2.5 M print at the 40 cm test distance. Field of vision was full by confrontation. He was given a 2.5X Designs for Vision telescopic loupe focused at 16 inches. He has resumed his job. The prescription of a telescopic system is not done frequently, but the example used illustrates problem solving in the fitting of low vision aids.

Case 2: Miss RG, age 14, with decreased vision from hereditary macular degeneration, first diagnosed at age 10, was referred by her school counselor because of difficulty in her band activities. Best distance vision was right eye 10/120(20/240), left eye 10/100(20/200). Best near vision was 4 M print at the standard 40 cm test distance. Her present low vision aid is a 6 diopter stand magnifier. She had to have all her music enlarged so that she could read it from a music stand; otherwise, she was required to memorize the music. She functioned well in the school system by using large print books. She was given a 6 diopter correction with 8 prism diopters base-in on each eye as a half-eye glass for her studies in school. This allowed her to read .8 M print (20/40 near equivalent) at 7.5 to 15 cm and a 2.2X Designs for Vision distance telescope was prescribed with a 1.5 diopter reading cap for her music. These caps serve as an add to the telescope which in this case provides a working distance of 67 cm. She could use the telescope to copy work from the blackboard and was able to use the reading cap to read her music. It should be noted that most musicians reject the telescope with a near cap for intermediate distance because of the restricted field, and usually memorize the music.

Case 3: Mrs. AS, age 59, housewife, with poor vision for 9 months due to retinal and vitreous hemorrhages as complications of diabetic retinopathy and aphakia, had photocoagulation of her left eye 9 months earlier. She had had cataract surgery in the left eye three years before and in the right eye one year before. She had worn contact lenses after her cataract surgery. Best vision, at the time of the low vision exam, was right eye 2/400, left eye 10/25(20/50). She read 2 M print at 40 cm on the Sloan cards. Present low vision aid was a 6 diopter hand magnifier, and with it she was able to read .5 M print (20/25). The 6 diopter power used in her hand magnifier was incorporated into a bifocal plastic cataract lens. She was advised to return at regular intervals since it is anticipated that her visual needs will change. Ordinarily, diabetics are considered poor candidates for low vision aids due to central field discontinuities and the progressive nature of the disease.

Low Vision Clinic

The Hermann Low Vision Aid and Rehabilitation Center of the University of Texas Medical Branch, located in the Hermann Medical Center Professional Building, Houston, began operation in September 1970. This service is available to all partially sighted persons, regardless of age, sex, area of residence, or ability to pay. The patients are required to have a medical eye report indicating diagnosis and visual acuity. A total of 274 people were seen in the clinic during its first 18 months of operation, and 326 aids were prescribed. Because of the short duration of its operation, no follow-up data of the percentage success with these aids is available. The clinic meets twice weekly by appointment. It is staffed by a full-time secretary, an optician, a senior resident in ophthalmology, and a

Name	No.
Spectacles:	
New Prescriptions (High adds included)	58
24 Diopter (6X Aolite)	9
31 Diopter (8X Aolite)	6
39 Diopter (10X Aolite)	9
47 Diopter (12X Aolite)	8
10D Aolite	10
16D Aolite	15
20D Aolite	24
+6 8BI Half eye	6
+8 10BI Half eye	3
+10 12BI Half eye	3
Selsi Monoculars for Distance:	
2.5X Selsi monoculars	38
2.8X Selsi monoculars	4
6X Selsi monoculars	8
8X Selsi monoculars	1
Distance Telescopes:	
2.5X Selsi sportscopes	6
Feinbloom 1.7X Telescopic systems (Designs for Vision)	3
Feinbloom 2.2X Telescopic systems (Designs for Vision)	10
Microscopic Loupes for Near:	
Feinbloom 2.5X Microscopic Loupes (Designs for Vision)	6
Feinbloom 4.5X Microscopic Loupes (Designs for Vision)	2
Hand Magnifiers:	
20D (COIL) hand magnifiers	32
11D (COIL) hand magnifiers	6
14D (COIL) hand magnifiers	4
+5D Bausch & Lomb hand magnifiers	7
27.5D Bausch & Lomb combination folding pocket magnifiers (3X, 4X, 7X)	6
32D Bausch & Lomb combination folding pocket magnifiers (4X, 5X, 9X)	2
68D Bausch & Lomb combination folding pocket magnifiers (5-20X)	2
11D Handimag (COIL)	1
4D Hanging chest magnifier for sewing	2
Stand Magnifiers:	
9D Fixed focus stand magnifier (COIL)	6
17.6D Fixed focus stand magnifier (COIL)	7
Paper Weight Magnifiers:	
4.7D Stand Magnifier (COIL)	1
Plano-convex Selsi paper weight magnifier	3
3.4D Bar magnifier	5
Magna Adds:	
1D power	4
2D power	1
3D power	5
Television Readers:	3
	326

1. Aids prescribed at clinic.

board-certified ophthalmologist interested in low vision aids. A report of the examination is sent to each referrer, whether the individual is a physician, social worker, teacher or friend.

Fig 1 shows the name of the aid and the total number of each prescribed at the clinic.

Summary

Recognizing the need for prescribing low vision aids for the patient who has visual impairment and desires help is within the capability of every ophthalmologist. For those who do not wish to prescribe low vision aids, or for complicated cases, a clinic is available where these patients can be referred. The technique of fitting low vision aids has been explained in an effort to inspire and stimulate more widespread use. The importance of accurately measuring the visual acuity has been stressed. A recommended three-step method has been presented. (1. Refraction. 2. Magnification required. 3. Reading distance for aid.) The aids prescribed during the first 18 months' operation of a new low vision clinic have been listed. For those who understand the principles of fitting these aids, the reward can be the satisfaction of improving the visual function of a large group of patients. It is hoped that more people will prescribe low vision aids in their routine office practice and apply the techniques described in this report.

References

1. Kestenbaum A, Sturman RM: Reading glasses for patients with very poor vision. Arch Ophth 56:451-469, 1956.

2. Fonda G: Management of the patient with subnormal vision. St. Louis, C. V. Mosby, 1965.

3. Sloan LL, Brown DJ: Reading cards for selection of optical aids for the partially sighted. Amer J Ophth 1955:1187, 1963.

4. Sloan LL: Recommended aids for the partially sighted. New York, National Society for the Prevention of Blindness, 1966.

5. The Lighthouse Optical Aids Catalogue. The Lighthouse Low Vision Services, The New York Association for the Blind. New York, New York.

6. Faye E: The low vision patient. New York, Grune and Stratton, 1970.

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That's not all. In another important change, the AMA's council-committee structure has been streamlined. Some councils and committees have been dropped. Others have been made more efficient by reducing their size to seven members for councils and five for committees. And to permit more frequent infusion of new members and ideas, maximum tenure of service has been reduced to seven and five years, respectively.

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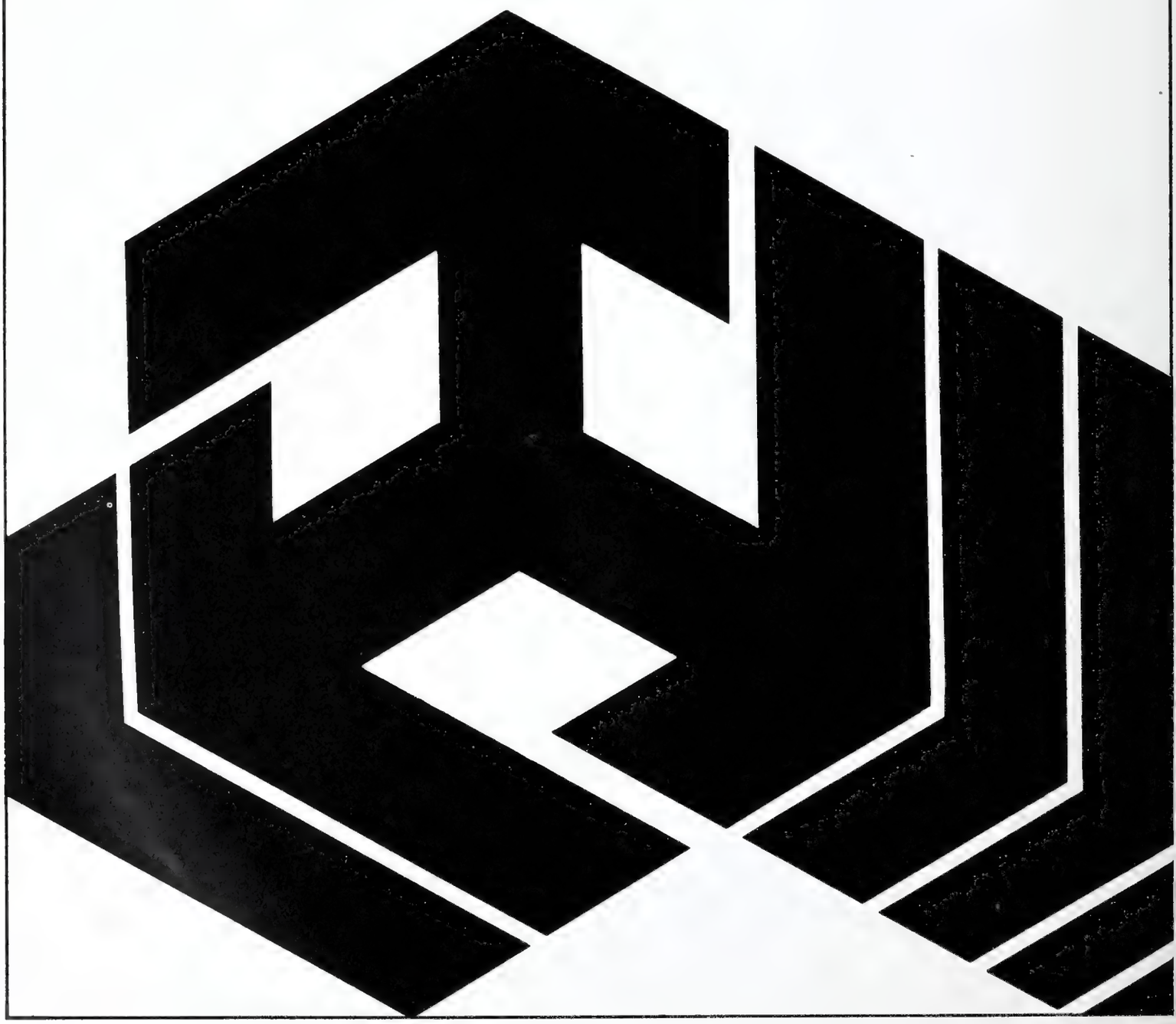

A. A. Mintz, MD, Guest Editor

Edward Kohaut, MD

Gunyon Harrison, MD

L. Leighton Hill, MD

Pediatric grand rounds
Freshwater drowning

Summer months find children in swimming pools with the inherent danger of drowning. Two cases of freshwater submersion with near drowning are presented. Both demonstrate the electrolyte disturbances of fresh water submersion, and are contrasted to the findings seen in saltwater drowning. The pathophysiology is discussed and a logical approach to therapy is presented.

Dr. Edward Kohaut, Postdoctoral Fellow, Renal-Metabolic Section, Baylor

The first patient is a 17-month-old boy who was rescued from the bottom of a swimming pool after an unknown period of submersion. At that time, he was cyanotic and apneic. After a few minutes of mouth-to-mouth resuscitation the cyanosis cleared and spontaneous respirations were noted. He arrived in our emergency room approximately 45 minutes after submersion. He was comatose and maintained a position of generalized rigidity. His respiratory rate was 50/minute, pulse rate 100/minute, and blood pressure 140/100 mm Hg. Funduscopic examination revealed mild venous engorgement. The lungs were clear to auscultation. The chest x-ray was normal. Seven grams of mannitol and 4 mg of Decadron were given intravenously. Initial values for blood gases were normal. The serum sodium level was 124 mEq/liter. During the first three hours of hospitalization, the patient received 70 cc of 5% saline containing 60 mEq of sodium. Thirty minutes after therapy was initiated with mannitol and hypertonic saline, the patient's rigidity had decreased. Within one hour the deep tendon reflexes were normal; however, the patient became agitated and showed an inappropriate response to stimuli. After the second hour of therapy the patient's sensorium and results of funduscopic and neurologic examinations were within normal limits. The patient was discharged on the third hospital day. He was not tachypneic after the first hour of hospitalization, and a roentgenogram of the chest remained normal.

The second patient is a 12-year-old boy who became lodged in the drainage pipe of a swimming pool. He recalled that while submerged he had swallowed large quantities of water. He was rescued after an unknown length of time. He was apneic after extrication; however, after a few minutes of mouth-to-mouth resuscitation, spontaneous respirations were noted and he became responsive. However, he was quite agitated and disoriented. He arrived in our emergency room approximately 45 minutes to one hour after submersion. The respiratory rate was 40/minute, pulse rate 100/minute, and blood pressure 100/80 mm Hg. Except for evidence of disturbed sensorium and symmetrically increased reflexes, results of the neurological examination were within normal limits. The funduscopic examination revealed decrease in venous pulsations. The initial roentgenogram of the chest was normal. Levels of blood gases on admission were normal. The initial serum sodium value was 111 mEq/liter. Fourteen grams of mannitol and 2 mg of Decadron were given intravenously. During the next three hours the patient received 150 cc of 5% saline, amounting to 127 mEq of sodium. One-half hour after therapy with mannitol and hypertonic saline was initiated, the deep tendon reflexes were more normal. One hour after therapy the patient was appropriately reactive to pain. After two hours,

he responded to his name. At three hours he was well-oriented to time, place, and person and had excellent recall of the events preceding his submersion. At this time the serum sodium value was 137 mEq/liter. His chest x-ray remained normal.

Drowning is defined as asphyxial death due to submersion. Therefore, we are concerned not with drowning but near drowning.

Aspiration of fluid into the pulmonary airways always has been of primary concern in any discussion of drowning. However, up to 40% of all drowning victims do not aspirate fluid.[1] This is known as dry drowning. If the victim aspirates the term wet drowning is used.

This concept can be easily understood if we analyze what occurs in experimental animals after submersion. First there is a one- to three-minute period of breath holding; this is followed by a violent inspiratory effort. Laryngospasm occurs. The victim continues to inspire, but laryngospasm protects the pulmonary airways and water is swallowed; then, one of two sequences of events commences. If the larynx relaxes prior to the time anoxia causes respiratory paralysis, water is aspirated. If laryngospasm continues until apnea occurs, the lungs remain dry. Once apnea occurs the victim will stop swallowing.

Various clinical situations may present in the near drowning victim. In dry drowning, since little or no fluid enters the lungs, we would not expect changes in pulmonary function to persist past the initial period of resuscitation. Classically, no electrolyte changes occur although we may take exception to this later. If no permanent damage is inflicted during the victim's hypoxic period, he recovers swiftly.

In wet drowning, pulmonary symptoms last well beyond the expected period. This is easily explainable in saltwater drowning since, due to the hypertonicity of the aspirated fluid, protein moves into the alveolus and remains there with the corresponding amount of water for an extended period. However, in freshwater drowning, the hypotonic aspirate is swiftly absorbed. Yet, just as in saltwater near drowning, an increased alveolar-arterial oxygen gradient remains present for up to 72 hours necessitating respiratory assistance to relieve hypoxia.

Giammona[2] found that fluid drained from the lungs of dogs drowned in fresh water did not have normal surface activity, while fluid from lungs of dogs drowned in saline or saltwater had normal surface tensions. It has previously been shown that a minimum concentration of 0.15-0.2 normal sodium chloride was needed in the alveolar lining to maintain normal surface tension. It was therefore proposed that sodium chloride was washed out of the alveolar lining in freshwater drowning, thus decreasing surface activity and increasing the pressure needed to re-expand the alveolus. This may be the explanation for the prolonged increase in alveolar-arterial oxygen gradient noted in freshwater drowning with aspiration.

It has been known since 1902 that electrolyte disturbances occur in drowning and near drowning. This has been reemphasized through studies in experimental animals. In freshwater drowning with aspiration, large amounts of water exist from the hypotonic alveolus into the blood stream. There is a sharp increase in extracellular fluid volume with corresponding solute dilution. The extracellular fluid becomes relatively hypotonic and water moves into the intracellular fluid compartment. This is most strikingly manifested

as cerebral edema. In saltwater drowning with aspiration, water moves into the alveolus causing solute concentration and possible shock.

Classically it has been thought that the most common cause of immediate death in freshwater drowning with aspiration was ventricular fibrillation secondary to hyponatremia. Fuller reviewed this subject in 1963 and found only minor changes in serum sodium levels of freshwater drowning victims. In 1969, Modell[4] obtained left ventricular blood samples from 74 drowning victims. The mean sodium concentration was 128 mEq/liter and 84% of the victims had serum sodium values within 20 mEq of normal. Both of these authors concluded that the cause of death was most likely anoxia, not hyponatremia. However, a rapid drop of 20 mEq in serum sodium levels may cause symptoms.

In 1966 Modell[5] reported six near drowning victims. All six had serum sodium levels within 10 mEq of normal. However, these studies may not have demonstrated the severity of the hyponatremia which may have existed earlier since these samples were drawn on arrival at the hospital. In the same year, Modell[6] demonstrated that in dogs drowned in freshwater, the sodium levels fell within three to five minutes after submersion, but by one hour were nearing normal. Thus, the six patients studied may have been hyponatremic, but corrected spontaneously prior to arrival at the hospital.

The patients presented herein are of interest since (1) neither patient demonstrated any clinical or laboratory evidence that he had aspirated a large quantity of water, yet both were hyponatremic; (2) neither patient had evidence of pulmonary inflammation, which usually has been reported 12 to 24 hours after submersion in chlorinated water; (3) neither patient had corrected his hyponatremia upon arrival at the hospital; and (4) both patients' primary problem was cerebral edema. True this could have been partially secondary to their hypoxic episodes, but improvement in both was correlated with a rise in serum sodium levels.

We feel that the foregoing can best be explained by proposing that both these patients aspirated very little if any water, and that the hyponatremia noted was due to swallowed water. This explains the lack of pulmonary pathology. Also, since water would be more gradually absorbed from the gastrointestinal tract, hyponatremia may occur much later. This would explain why the patients were still severely hyponatremic on arrival at the hospital.

Possibly even more convincing are the words of the second patient, and I quote, "I remember swallowing and swallowing and swallowing and the next thing I remember I was here." We therefore advise that every near drowning victim should have his stomach emptied by nasogastric drainage upon arrival at the hospital to prevent further water absorption.

Treatment of freshwater drowning must be directed towards the symptoms present. Patients with primary pulmonary problems would of course be treated much differently than the patients presented today. Determination of blood gases seems essential to dictate the type of respiratory assistance needed. If the patient presents with cerebral edema and hyponatremia, it would seem appropriate to severely restrict water intake, give mannitol to mobilize free water from the intracellular fluid space, and in the extreme case, hypertonic saline may be used to raise extracellular tonicity and move water from the intracellular compartment.

Dr. L. Leighton Hill; Director, Renal-Metabolic Section, Baylor

I would agree with Dr. Kohaut's analysis of the sequence of events in these two cases. These children undoubtedly swallowed a lot of water and the hyponatremia was significant in both instances. The dramatic improvement in neurological status following the use of mannitol and hypertonic saline further supports the diagnosis of acute water intoxication with cerebral edema. Mannitol not only pulls water from the brain cells and the cerebrospinal fluid, but also promotes renal excretion of this water by acting as an osmotic diuretic. Hypertonic saline would also cause redistribution of fluid from the intracellular to the extracellular fluid space. Renal excretion of this excess fluid might be delayed or sluggish. Therefore when hypertonic saline is used in this situation, it might be well to promote renal salt and water excretion by the use of furosemide. I am not sure whether Decadron would be helpful or not in this type of cerebral edema, but I would think not.

Dr. Gunyon Harrison, Director, Pulmonary Disease Center, Texas Institute for Rehabilitation and Research

The presentation of this case and a review of the literature by Dr. Kohaut has been extremely timely and comprehensive.

I have only some philosophical and general comments to make. The judicious management of a patient brought to the emergency room after being submerged for an undetermined length of time requires a rapid evaluation followed by initiation of a series of procedures whose purpose is to adequately compensate those systems whose physiological function has been compromised by submersion. To treat the drowned patient efficiently and comprehensively is to know clinical medicine based on the fundamentals learned in Best & Taylor.[7]

Some pointers on evaluation and rapid initiation of a therapeutic regimen are:

1. If the patient is anoxic and unconcious:
    a. Place on controlled ventilation using a volume oriented ventilator.
    b. Nasal gastric tube: immediate aspiration of gastric contents and follow with gravity drainage.
    c. Connect patient to vital signs monitor and monitor temperature, ECG, pulse, and blood pressure.
    d. Insert indwelling arterial catheter.
    e. Insert indwelling intravenous catheter.
    f. Insert Foley catheter.
    g. Administer mannitol intravenously if there is indication of cerebral edema.
2. Following results of hemoglobin, hematocrit, electrolytes, albumin/globulin ratio, and blood urea nitrogen determinations, initiate therapy for hypervolemia or hypovolemia; administer adequate fluid maintenance.
3. Following return of results of arterial blood gas determinations, correct pH, $PaCO_2$, PaO_2.

If pulmonary edema is present, treat with high pressure, slow flow rate in association with administration of vodka or 40% ethyl alcohol, 3-5 cc by nebulization.

4. Initiate physiological treatment of hypotension or cardiac arrhythmia.
5. Maintain patient on an intense observation and supporting program through at least 24 hours of physiological stability before beginning his weaning program.

Dr. A. A. Mintz

The neurosurgeons in this hospital are great believers that steroids will relieve edema of the brain. Routinely, in the postoperative patient and when evaluating a person with brain tumor and papilledema, they advise steroids.

Dr. George Clayton

I would question the use of Decadron in a child with a low sodium level. Decadron can produce sodium excretion unlike cortisone. However, with a normal sodium value, Decadron may be very helpful in relieving cerebral edema.

References

1. Redding J, Voight GC, Safar P: Drowning treated with intermittent positive pressure breathing. J Appl Physiol 15:849-854, 1960.
2. Giammona ST, Modell JH: Drowning by total immersion. Effects on pulmonary surfactant of distilled water, isotonic saline and seawater. Amer J Dis Child 114:612-616, 1967.
3. Fuller RH: The 1962 Wellcome Prize essay. Drowning and postimmersion syndrome. A clinicopathologic study. Milit Med 128:22-36, 1963.
4. Modell JH, Davis JH: Electrolyte changes in human drowning victims. Anesthesiology 30:414-420, 1969.
5. Modell JH, Moya F: Effects of volume of aspirated fluid during chlorinated fresh water drowning. Anesthesiology 27:662-672, 1966.
6. Modell JH, Gaub M, Moya F, et al: Physiologic effects of near drowning with chlorinated fresh water, distilled water and isotonic saline. Anesthesiology 27: 33-41, 1966.
7. Best CH, Taylor NB: The Physiological Basis of Medical Practice, ed 8. Baltimore, Williams & Wilkins, 1966.

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Duodenoscopy in diagnosis of occult peptic ulcer disease

The duodenum may be examined with either side-viewing or forward-viewing instruments, and on occasion, both may be desirable. The side-viewing instrument is required for ampulla of Vater cannulation studies, but has major deficiencies for use in the esophagus and pyloric channel. The latest models of both instruments have excellent torque responsiveness, capability for biopsy, photography, suction for direct cytological examinations, and air instillation. Controlled tip movement to 180° in every direction is possible in the forward-viewing instruments. In the majority of patients, the forward-viewing panendoscope can be used alone, permitting a single coordinated examination of the esophagus, stomach, pyloric channel, and duodenum with a single intubation.

Our purpose is to report the advantages of using forward-viewing panendoscopy to discover radiologically occult active peptic ulcerations.

Materials and Methods

Only patients undergoing panendoscopy during the six months between July 1, 1971 to Jan 1, 1972, after negative or non-diagnostic upper gastrointestinal series were selected. There were 177 patients who fulfilled this criteria. Patients with radiologically visible duodenal or gastric ulcers were not included. Our indications for duodenoscopy included the following upper gastrointestinal diagnostic problems: persistent guaiac positive stools; iron deficiency anemia; during vigorous diagnostic approach of upper gastrointestinal hemorrhage; esophageal disorders; deformity of the pyloric channel or duodenum; undiagnosed upper abdominal symptoms; or followup of previous endoscopic lesion.

All patients received topical oropharyngeal anesthesia with cyclone spray. Intravenous diazepam (Valium) 10-40 mg was generally used as the sole premedication. Vigorous iced tap water/saline lavage for cleansing and hemostasis was carried out on bleeders.

Results

Fig 1 summarizes the number of active peptic ulcers noted by duodenoscopy in 177 patients scoped after negative or indeterminant upper gastrointestinal series. Of these, 34, or 19.2%, were found to have active peptic ulcers. Nineteen, or 10.7%, had ulcers in areas that would have been inaccessible to conventional esophagoscopy or gastroscopy.

Fig 2 shows the number of occult ulcers found in each anatomic location and percent of the total number of diagnostic duodenoscopies. Over 50% of the occult ulcers were noted distal to the stomach. (Duodenal, pyloric channel, and marginal ulcers totaled 19 of the 34 occult peptic ulcers noted in this series.) The low incidence of erosive gastritis is an artifact. When bleeding gastric erosions were encountered, and the duodenum was adequately visualized, an upper gastrointestinal series was not obtained, thus excluding the patient from the series.

Fig 3 shows the number of endoscopies done for each indication and the number and percent of occult peptic ulcers found for each. In Group A, those endoscoped for persistent guaiac positive stools, 7 out of 11, or 63.6%, had occult peptic ulcer disease. In iron deficiency anemia, Group B, we found one case of active peptic ulcer disease out of 5 for a 20% yield.

In Group C, the highly selected patients with acute upper gastrointestinal hemorrhage and negative upper gastrointestinal series, our yield was 6 out of 16 for a 37.5% total. An additional 54 patients

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either had subsequent confirmatory upper gastrointestinal series, or the endoscopy was of sufficient quality so that no subsequent barium contrast studies were ordered. Of the 16 remaining, a firm endoscopic diagnosis was not made in 10, usually because the degree of hemorrhage precluded satisfactory gastroduodenal viewing. However, lesions of the esophagus could be ruled in or out.

Group D patients, those being endoscoped because of signs or symptoms of unremitting reflux esophagitis or other lesions such as inflammatory stricture, or filling defect, were found to have occult peptic ulcers in 9.3% of the cases.

Group E patients, those endoscoped for deformity of the pyloric channel or duodenum, were found to have occult peptic ulcers in 6 of 39 cases for a 15.4% yield. In addition to determining the presence of active peptic ulcers in the pyloric channel or duodenum, the duodenoscope was used to determine the presence or absence of neoplastic lesions in the region of the ampulla of Vater, and to verify the presence or absence of chronic or acute duodenal inflammation or scars: "duodenitis."

Forty-eight patients were endoscoped for diagnostic abdominal pain problems in Group G. Most had equivocal history and physical examination, and all had negative upper gastrointestinal series. We found active peptic ulcer in 8 of the 48 or in 16.6%.

On occasion, either peculiar anatomic angulation of the stomach or pyloric obstruction precluded entering the duodenum. At first, there were technical difficulties in viewing the duodenum—"red outs," or mucosa too close. But with experience, this has not been a problem, and intravenous anticholinergics have not been required.

	Number	%
Initial duodenoscopies	177	
Total cases of occult peptic ulcers, all sites	34	19.2
Total cases occult peptic ulcer disease found, sites accessible to duodenoscope only	19	10.7

1. Peptic ulcer disease noted in patients with negative or indeterminate upper gastrointestinal series.

	Number	%
1. Duodenal ulcers	11	6.2
2. Pyloric channel ulcers	7	4.0
3. Marginal ulcers	1	0.6
4. Gastric ulcers	13	7.3
5. Multiple superficial gastric erosion ulcers	2	1.1

2. Site of occult peptic ulcers and percent of total number of diagnostic duodenoscopies of each group.

	Total	No. Positive for Occult Peptic Ulcer Disease	%
A. Persistent guaiac positive stools	11	7	63.6
B. Iron deficiency anemia	5	1	20.0
C. During the vigorous diagnostic approach of upper GI hemorrhage	16	6	37.5
D. Signs or symptoms of esophageal disease	64	6	9.3
E. Deformity of pyloric channel or duodenum	39	6	15.4
F. Diagnostic abdominal pain problem	48	8	16.6
G. Followup of endoscopic lesions	23	0	0

3. Indication for duodenoscopy.

Discussion

Belbar,[1] in his review of 200 duodenoscopies in conjunction with upper gastrointestinal series, noted that 36% of the ulcer craters present were not seen on upper gastrointestinal series, and that duodenoscopy was 94% accurate in denoting ulcer craters (versus a 64% accuracy of upper gastrointestinal series alone).

Active peptic ulcer disease was noted in 19.2% of those endoscoped in this series. It indicated that many patients may present to the internist with a negative or questionable lesion as determined by upper gastrointestinal series, negative esophagoscopy-gastroscopy, and yet actually have active peptic ulcer disease.

Because of the number of actively bleeding ulcers from the pyloric channel to the post bulbar area, and the inaccuracy of upper gastrointestinal series in the actively bleeding patient, a single coordinated examination of the esophagus, stomach, pyloric channel, and duodenum with the duodenoscope has become the principal diagnostic tool during emergency workup of the acute upper gastrointestinal bleeder.[2] Because of the greater accuracy of this scope in diagnosing the active bleeding site, numerous patients do not require upper gastrointestinal series, sparing the radiologist much time. Philosophy regarding emergency radiography has changed, and the upper gastrointestinal series has been replaced by arteriography. When gastroesophageal lesions were encountered in the past, we could not be certain that the duodenum was negative. Thus, semi-emergency upper gastrointestinal series were frequent. Now, if we can't make a diagnosis because of briskness of bleeding, we call upon the radiologist for selective arteriography both as a diagnostic tool and for therapy by means of subselective vasoconstrictor perfusion.

We believe the pylorus and duodenum of all patients undergoing esophagoscopy for unremitting symptoms secondary to esophageal reflux should be viewed. Associated problems in gastric emptying may indeed be a major aggravant in such patients. The 9.3% yield of peptic ulcers in patients investigated for this indication would have gone undiagnosed with esophagoscopy alone, illustrating a critical advantage of the duodenoscope.

Fig 2 shows that a significant number of pyloric channel ulcers were noted in patients with negative upper gastrointestinal series. These ulcers were linear and circumferential, conforming to the cylindrical shape of the pyloric channel. They do not have deep penetrating craters; thus, the failure to demonstrate these ulcers by x-rays is understandable.

Finally, the occult nature of the ulcers, defying definite diagnosis on initial x-ray examination or esophagoscopy-gastroscopy, led to the incorrect diagnosis of primary mental illness in one pyloric channel ulcer patient. Two patients with persistent guaiac positive stools were spared further complex diagnostic procedures, even exploratory laparotomy, when their ulcers—one jejunal and one duodenal—were found. Another two patients with radiologically demonstrated deformity in the region of the ampulla of Vater were spared surgery when large benign ampullary prominences were noted on duodenoscopy.

These results confirm our belief that duodenoscopy is a necessary complement to radiographic evaluation of the upper gastrointestinal tract. The payoff in the questionable areas of the upper gastrointestinal series, such as the lesser curvature of the stomach below the angulus, the py-

loric channel, and deformed bulb or ampullary region is substantial.

Summary

One hundred and seventy-seven patients, with negative or indeterminate upper gastrointestinal series, underwent duodenoscopy in a six-month period. They were selected for duodenoscopy because of persistent guaiac positive stools, iron deficiency anemia, and intractable abdominal pain, or to determine cause of unresponsive esophagitis, acute upper gastrointestinal hemorrhage, or deformity of pyloric channel or duodenum. No patient with ulcer proved by x-ray was included. Results revealed duodenal ulcers in 11, or 6.2%; pyloric channel ulcers in 7, or 4.0%; gastric ulcers in 13, or 7.3%; a marginal ulcer in one, or 0.6%; and multiple superficial gastric erosions in two, or 1.1%.

References

1. Belber JP: Endoscopic examination of the duodenal bulb: a comparison with x-ray. Gastroenterology 61:55-61, 1971.

2. Classen M: Fiberendoscopy of the intestines. GUT 12:330-338, 1971.

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Use of Water-Piks in acute chemical burns of the eye

Elliott J. Blumberg, MD*

Inexpensive and almost universally available, the Water-Pik is a highly effective instrument for the treatment of acute chemical burns of the eye. It can be used for flushing acid, base or organic solutions from the eye, as well as for removing particulate matter from the surface of the cornea. Both professional and nonprofessional personnel can use it. After several years of experience, I feel the Water-Pik is unequalled in effectiveness.

The procedure for using the device is as follows. Drop several drops of Ophthaine 0.5% into the eye or eyes involved. While this is taking effect, fill the container on top of the Water-Pik with sterile distilled water. Set the dial to "zero" (the lowest position) for the lowest pressure and leave the switch in the "off" position. A lid speculum can be used to help maintain lid retraction, but an extra pair of hands is helpful. Direct the curved nozzle about one-half to one inch from the lower conjunctival cul-de-sac, and turn the switch to "on." A high velocity pulsating stream of water is then directed at the eye.

At first, physician and patient alike may feel some anxiety, but this will lessen with experience. Continue the irrigation, reassuring the patient, and apply the nozzle alternately into the lower and upper cul-de-sacs, lateral and medial fornices and directly onto the cornea. If both eyes are involved, alternate irrigation is carried out between the two eyes approximately once every four to five minutes as the water container empties. For severe burns, irrigate each eye 15 to 30 minutes.

Reinstillation of Ophthaine should be repeated about once every four to five minutes. To diminish ciliary spasm, 1% atropine drops are useful for severe burns.

After considerable irrigation, I have noticed that a basic change will occur in the burned eye—it becomes less injected and the cornea somewhat more clear. I have not been able to document this observation, except from my own clinical experience. Where this change has occurred, I find that one can usually anticipate a favorable prognosis for the injured eye.

It should be noted that during the course of one of these treatments, the patient, physician, nurses, table, floor, and surrounding area will be completely doused with water.

Concerning sterility: we have not lost an eye secondary to infection. If the machine is purchased new and has not been used as an oral irrigator, and if the water used in it is sterile, there is little likelihood of significant pathogenic contamination.

Cidex or other antiseptic solutions may be cycled through the machine prior to use, but this procedure must always be followed by cycling through sterile water to remove potentially irritating solutions or crystalizing salts. The single eye that was lost following this procedure was one with a severe lye burn and was treated before the presence of collagenase enzymes was recognized. The eye was ultimately lost due to corneal thinning rather than infection.

In the Water-Pik, we have available an inexpensive, universally obtainable instrument which is extremely effective for its purpose—irrigation of acutely chemically burned eyes. It can be used as a first aid instrument in a factory first aid station, laboratory, emergency room, or other area where immediate treatment of ocular burns is essential, but no professional person is present.

Dr. Blumberg, 1116 West Randol Mill Road, Suite C, Arlington, Texas 76012.

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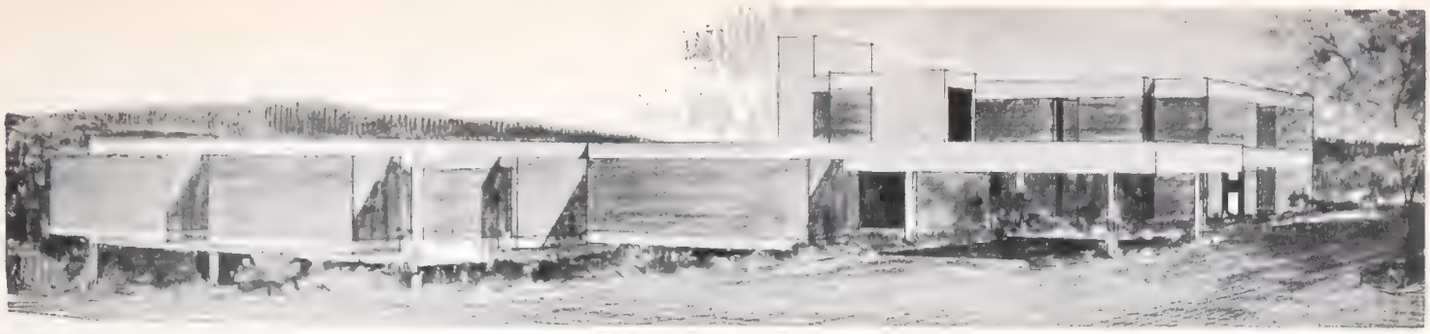

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Texas delegates to AMA speak out

The lead news article in this month's TEXAS MEDICINE (pp 6-8) tells an important success story—the favorable outcome for 13 resolutions on which Texas Medical Association sought AMA's approval.

Texas delegates to the American Medical Association had much to do with the success, but they are concerned about winning future support for medicine nationally. They worry that physicians may not recognize the importance of AMA as an effective spokesman for physicians.

Topics of the 13 Texas resolutions covered many areas of interest to Texas physicians nationally, thus AMA's help was requested. Dr. Joe T. Nelson of Weatherford, chairman of the Texas delegation to AMA and a member of TMA's Board of Trustees, feels that stories of joint state-national effort like these help to answer the query, "What does the medical society do for me?"

Nelson: How Can I Do My Share?

The question that should be asked, "How can I do my share?" is extremely important at this time in medical history, he feels.

"Some say that the AMA just prints journals that are not read and calls meetings that no one wants to go to," but, he observes, "The collective force—the impact —of a profession can only equal that of the sum of the individual efforts of its members. If each of us were to retire, pull our horns in, and ignore things being discussed regarding the practice of medicine, the collective force would be nothing. Our responsibilities would be taken over by those who would be delighted to shoulder them for us. Physicians cannot afford to be part of the problem. They must be an essential part of the solutions. The AMA is the place on the national scene to put things together, and with the help of Texas doctors, we can assemble an expert staff, reinforced with persons competent in law, insurance, economics, business management, and political knowledge to get our story told."

Other Texas delegates are emphatic about the positive values of membership in the American Medical Association.

Moreton: AMA Represents All Physicians

Dr. Robert D. Moreton, an AMA delegate from Houston, points out that the American Medical Association represents all facets of organized medicine and "is the only organization that does this. Individuals or groups may appeal decisions to the House of Delegates. These are debated before reference committees and on the floor itself. This is true of any decision of trustees or councils and, even though I do not agree with all decisions, it is certainly the democratic process."

One important facet of the AMA, he says, "is the Council on Medical Education which has approved and upgraded education resulting in the finest heath care ever.

"Representatives of the AMA have been strong spokesmen for the continuing support of medical education at all levels, which at the present time, is so vital to the medical schools, their clinical faculty and training centers."

"Yes, the AMA with its many facets is the preeminent organization of physicians in this nation. Its greatest expenditure has to do with improving medical care and education. About one-half of this is from members' dues. There is no such thing as a free lunch and I am glad to pay my part. Even though I may not receive benefits from all activities, I, along with others, reap a full share. I could make no impression using a like amount of the dues myself."

Dr. Moreton concludes, "The real fact is that polls reveal that the majority of members and nonmembers agree with the policy position the AMA maintains on medical education and other medical matters in Washington. If the AMA was abolished today, it would have to be invented all over again tomorrow—and I don't think we would do as well."

Renger: Unity is Vital

Dr. Harvey Renger of Hallettsville, for many years chairman of the delegation, who still actively serves as a delegate, has long been aware of the value of a united organization for doctors and patients.

Observing that the AMA is a federation of constituent state medical societies and component county medical societies, Dr. Renger believes that without this organization there could never be any cohesive action of physicians in the United States.

"All the state societies with their component county medical societies would be floundering for a way to establish a national concerted effort. Without a federation of state societies, such as the AMA, I do not believe there would be any way that any manner of organized effort could ever be established to foster the education of the physician, the improvement of health care, and the protection of the principles and philosophy of the practice of medicine."

"I have had the experience in the past 15 years to serve on committees on health care financing, insurance, and the Council on Legislation. During these years of service, I have seen the beginning of the idea of Medicredit, which is now popular with Congressmen who realize that this is the only sensible approach for medical care to the needy. Time and again, I have seen the influence of organized medicine on legislation pending in Congress."

Dr. Renger has been personally active in leading many Texas resolutions to successful conclusion before the AMA House of Delegates, but he feels participation by all Texas doctors in the AMA is extremely important if their views are to be felt nationally.

Barker: Membership Is A Bargain

A challenge to every individual practitioner is sounded by Dr. N. L. Barker, a member of the TMA Board of Trustees from Paris and a Texas delegate:

"In addition to your practice, could or would you like to read more than 2,400 bills of medical significance at the national level, follow them through the maze of hearings, executive sessions, floor votes, conference committees and even vetoes, touch base with multitudes of federal bureaucracy concerned with medicine, read the *Congressional Record* each day, review the *Federal Register* for new rules and regulations, contact 535 senators and house members, the President, cabinet members, and others?

"Neither you nor I nor any other individual could possibly do it. Only by combining our efforts behind the AMA can we have the input to present our views on the subject of medical care and the ramifications of possible decisions and their effect on health care for our patients. Only by combining our efforts can we possibly hope to analyze, develop positions of support or defeat or have any input from the standpoint of organized medicine. We are the American Medical Association and we should support it. I know of no bargain better than what your dues accomplish for you."

Cole: AMA Responsive and Representative

Dr. Charles Max Cole, former speaker of the Texas Medical Association's House of Delegates and member of the AMA Council on Long Range Planning and Development, a Texas delegate, is a man who is used to carefully judging and evaluating both sides of a question. He reflects carefully on the importance of AMA membership: "Regardless of its faults and weaknesses and of the criticism directed against AMA from the right, the middle, and the left, the American Medical Association remains the most powerful and—yes—the most representative organization for physicians in this country. Those who would substitute some other form or organization for it are motivated by self-interest and should self-interest groups prevail, the profession would polarize and fragment itself into complete ineffectiveness in the socioeconomic and political areas."

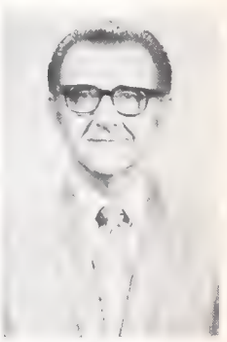
"Contrary to the views of some, the AMA is a responsive organization that can and will change with the needs and desires of its membership—so long as these changes are orderly and consistent with the objective of bettering the public health."

"Every physician in this land should be a member and let his voice be heard. The resulting 'chorus' will shape the future of medicine in America."

Dr. Nelson

Dr. Moreton

Dr. Renger



Dr. Barker

Dr. Cole

The changing face of Texas Medicine

The 1923 AMA Annual Session at San Francisco was the topic of discussion in the August 1923 issue of the *Texas State Journal of Medicine* (now *Texas Medicine*).

The Texas delegation, numbering 106, traveled to California by train with an overnight stop at the Grand Canyon. After arriving in Los Angeles, travelers had the choice of going to San Francisco by land or sea. There were 3,765 physicians attending the meeting, which included both the scientific and clinical meetings as well as sessions of the House of Delegates.

One of the topics discussed at the meeting was the Volstead Act, or Prohibition. The subject was aired at a three-day meeting of a reference committee, only to be tabled by the House—a move which discouraged editor Holman Taylor, who had chaired the reference committee. The committee had urged the House of Delegates to portions of the act which "interfere with the proper relation of the physician and his patient." Specifically, physicians objected to requirements that they write the reason for prescribing liquor on the prescription form, and to limitations on the amount of the drug which could be prescribed.

"The problem we started out to solve in this whole nightmare of prohibition," said Taylor, "was to prevent drunkenness and all that goes with it. We have passed beyond this practical idea and are entering the class of the witch burners."

On a happier note, it was reported that the Women's Auxiliary of the American Medical Association "was finally and firmly launched at the San Francisco meeting." The idea for an auxiliary had its inception in Texas, and in San Francisco, 14 states were represented. Mrs. S. C.Red of Houston was elected president of the new organization.

The scientific section of the August journal was taken up with articles on pregnancy, childbirth, and infant mortality.

In an article on weight during pregnancy, Dr. C. R. Hannah of Dallas gave a detailed report of his efforts to help patients manage weight. Commenting on the article, Dr. L. Mackechney of Wichita Falls agreed that weight management was important, and cited an example from his practice: "The only serious trouble that I have had in the last twelve months was in a patient who gained some forty or fifty pounds; a young woman whose husband, fortunately or unfortunately, had a lot of money. She had a Cadillac car, and I am quite sure that she ate forty or fifty pounds of candy during her pregnancy, and she wouldn't take any exercise. I told her all along that she would have a hard time, and she did."

An article on infant mortality called for better prenatal care, licensing of midwives, and adequate milk inspection. Mortality rates for 1922 were listed for many Texas cities; figures are per 1,000 births. Amarillo: birth rate, 31, mortality, 54; Beaumont, birth rate, 22, mortality, 134; San Antonio, birth rate, 25, mortality, 135; Temple, birth rate, 15, mortality, 70; El Paso, birth rate, 27, mortality, 136; Dallas, birth rate, 22, mortality, 86; Fort Worth, birth rate, 18, mortality, 73; Houston, birth rate, 20, mortality, 92; and Waco, birth rate, 16, mortality,70.

Personals

DR. JOHN P. McGOVERN, Houston, has been elected chairman of the Board of Regents of the National Library of Medicine. The one-year term as chairman will conclude Dr. McGovern's four-year appointment to the Board of Regents where he also serves as chairman of the Extramural Grants Program.

Fort Worth obstetrician-gynecologist JACK L. TURNER has just returned from Kabul, Afghanistan, where he served for a month as a volunteer physician for CARE-MEDICO. The tour was the second for Dr. Turner, who says he would like to "urge any physician interested in international medicine to serve."

DR. HERSCHEL DOUGLAS, associate professor of medicine and acting chairman of the Department of Family Practice at UT School of Medicine in San Antonio, has received the Distinguished Service Award of the Bexar County Pharmaceutical Association. The award is made each year to a person other than a pharmacist who has offered outstanding service to the profession and the community. Dr. Douglas was recognized for his work in the development of a prescription service program for the Bexar County Hospital District Family Health Center in San Antonio.

DR. DUANE L. LARSON, chief of surgery for Shriners Burns Institute in Galveston, has been selected Physician of the Year by the President's Committee on Employment of the Handicapped. The selection is made each year in cooperation with the AMA in recognition of the physician who contributes outstanding effort toward the prevention of a crippling disease and treatment and rehabilitation of handicapped patients.

DR. LORENCE FELLER of Fredericksburg has received the Distinguished Service Award from Texas Lutheran College for his service as a member, secretary and chairman of the college's Board of Regents, and for his financial support of the college.

DR. WILLIAM B. ADAMSON, head of cardiology at Hendrick Memorial Hospital in Abilene, has received the Ledbetter Award from the American Heart Association, Texas Affiliate, Inc. The award, established two years ago, is one of the highest awards the association bestows.

DR. S. PERRY POST, president of the Bexar County Medical Society, has joined the fulltime faculty of The University of Texas Medical School at San Antonio. Dr. Post will be a professor in the new Department of Family Practice.

New president of the Texas Diabetes Association is DR. ALBERT HENDLER of Dallas. DR. ERIC ORZECK of Houston is the association's new secretary-treasurer.

DR. SANFORD GLANZ, Corpus Christi, has been elected secretary-general of the International Society of Aesthetic Plastic Surgeons. The election took place at a meeting of the international group in Jerusalem, Israel.

DR. ROSE TUNNELL of Taft has been honored by the Taft Kiwanis Club. Dr. Tunnell, named "Taft Citizen of the Year," is married to DR. JOHN TUNNELL, who was similarly honored in 1957.

DR. DONALD W. PATRICK, Austin, has been named second vice president of the Texas A&I University Alumni Association by the association's executive board. Dr. Patrick practices neurosurgery.

DR. MARGARET CIGARROA of Laredo has been named to the Texas Board of Mental Health and Mental Retardation by Gov Dolph Briscoe. Dr. Cigarroa replaces her late husband, Dr. Leonides G. Cigarroa, on the board.

Medicine in literature

Risks in the Practice of Modern Obsterics, S Aladjem, ed, 304 pp, illus, St. Louis, C.V. Mosby, 1972, $29.50.

AN EXCELLENT COMPENDIUM of authoritative opinion, this work clearly illustrates the increasing complexity of modern obstetrics.

The book is aimed at the specialist familiar with subjects and procedures included, and is not intended as a reference for detail of technique. The inclusion of pediatricians, endocrinologists, anatomists, a pharmacologist, and specialists in infertility in the list of contributors shows the multidisciplinary character of modern obstetrics.

Many areas of interest are covered, starting with the prenatal stage, from both obstetrician's and pediatrician's point of view, and continuing through pregnancy and delivery. Also included are discussions of the problems and risks of the infertile couple, therapeutic and elective abortions, and the limitations of genetic evaluation.
An addendum to the book treats in detail the medicolegal risks of the physician; the chapter is comprehensive and is in itself worth the review of the physician who practices obstetrics.
In view of this multidisciplinary approach, the editor adds his voice to the growing number who see this as a justification for further subspecialization within the fields of gynecology and obstetrics.

L. A. CHARPENTIER, MD
Galveston

Rheumatic Fever, ed 2, vol 2 in the series, "Major Problems in Clinical Pediatrics," M Markowitz, L Gordis, 309 pp, illus, Philadelphia, W. B. Saunders, 1972, $11.50.

DIAGNOSIS, MANAGEMENT, AND PREVENTION of rheumatic fever are reviewed in this monograph.

Also included is a review of new knowledge of the biology of group A beta hemolytic streptococci; differential diagnosis of major manifestations, and errors in interpretation of minor manifestations; and therapy. Appendices include the American Heart Association's revised Jones Criteria for Guideline in Diagnosis of Rheumatic Fever; recommendations for prevention of rheumatic fever; and a method for culturing beta hemolytic streptococci from the throat.

This is a well-written up-to-date monograph and deserves to be in the library of public health officials and of all physicians who treat school-age children.

P.A. CATO, MD FAAP
Austin

IN THE TMA LIBRARY

Dymock W: *Pharmacographia Indica: a history of the principal drugs of vegetable origin met with in British India,* vol 1. London, Kegan Paul, Trench, Trubner & Co Ld, 1890. Reprinted, 1972 by The Institute of Health and Tibbi Research, Pakistan.

Faas LA (ed): *Learning Disabilities: a book of readings.* Springfield, Ill, Charles C Thomas, 1972.

Fiorentino M (ed): *Newer Anticancer Drugs and Procedures: proceedings of the First Padua Seminar on Clinical Oncology.* Padua, Italy, Piccin Medical Books, 1971.

Fiorentino M, Vangelista R, Grigoletto E (eds): *Thyroid Tumors, Lymphomas, Granulocytic Leukemia: proceedings of the Second Padua Seminar on Clinical Oncology.* Padua. Italy, Piccin Medical Books, 1972.

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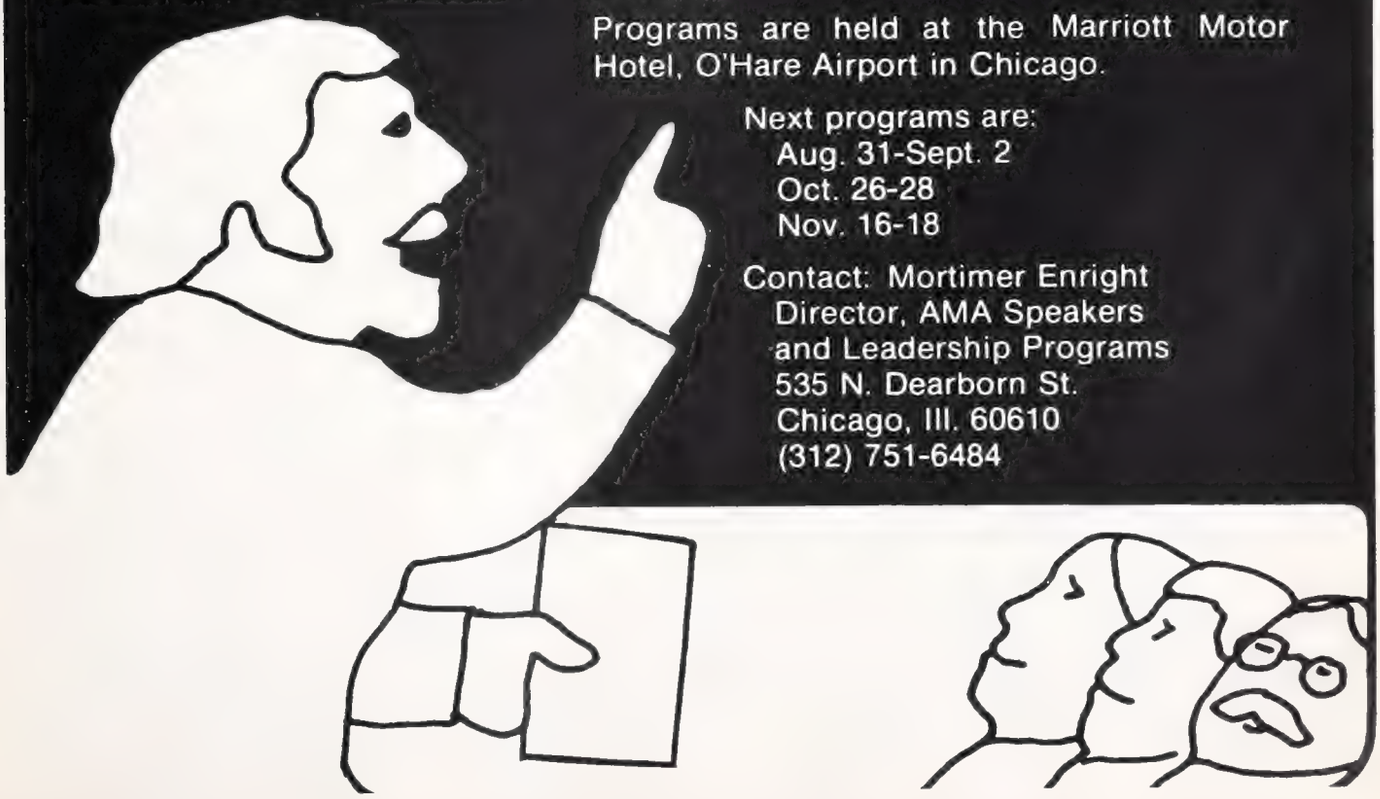

RECENTLY DECEASED MEMBERS OF THE TEXAS MEDICAL ASSOCIATION

D. W. FERGUSON
Dallas, 1919-1973

B. F. JOHNSON
Austin, 1921-1973

L. W. MARTIN
Dallas, 1929-1973

W. F. OSSENFORT
Dallas, 1898-1973

J. D. PETICOLAS
El Paso, 1909-1973

J. W. PRYOR
San Antonio, 1890-1973

J. B. ROBBINS
El Paso, 1912-1973

T. W. TAYLOR
Atlanta, 1927-1973

J. H. WILLIAMS
Austin, 1901-1973

W. C. WRIGHT
Farmersville, 1888-1973

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Contributions to the Texas Medical Memorial Library Fund are invested in a permanent fund and are managed by the Board of Trustees of the Texas Medical Association. Dividends are used to purchase new books and to operate the Library.

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Recent deaths

Dr. D. W. Ferguson

Dr. Doyle William Ferguson, medical director of Blue Cross-Blue Shield of Texas, died April 6, 1973. The 53-year-old physician's death was caused by a heart attack.

A native of Kaw City, Okla., Dr. Ferguson received a BS degree from the University of Oklahoma, Norman, Okla., in 1940. He was graduated from The University of Texas Southwestern Medical School at Dallas with an MD degree in 1944. After an internship at Baylor University Medical Center, Dallas, Dr. Ferguson entered private practice until 1953, when he served as a captain in the US Army. Returning to Dallas in 1955, he resumed his private practice until 1967, when he assumed the position of medical director for Blue Cross-Blue Shield of Texas. Dr. Ferguson was presented the "Outstanding Family Physician Award" by the Dallas County Medical Society in 1951.

A member of the Dallas County Medical Society, Dr. Ferguson also held memberships in American Academy of Family Physicians, Texas Medical Association, and American Medical Association.

Surviving the physician are his wife, Grace Ferguson; daughter, Mrs. Frances Diane Ruffalo; and son, Doyle W. Ferguson, Jr.; all of Dallas.

Dr. L. W. Martin

Dallas psychiatrist, Dr. Lawrence William Martin, died of a heart attack April 2, 1973.

Born in Kosse, Texas, in 1929, Dr. Martin received his preliminary education in Austin and Kerrville. He entered The University of Texas at Austin and earned a BA degree in zoology in 1953. In 1955, he was graduated from The University of Texas Medical Branch at Galveston with an MD degree. After an internship at Brackenridge Hospital, Austin, and residency at Austin State Hospital, Dr. Martin served in the US Navy in Pensacola, Fla., for two years. He returned to Texas in 1959, and entered a residency at Parkland Hospital, Dallas. In 1961, he joined the faculty of The University of Texas Southwestern Medical School at Dallas as instructor in the Department of Psychiatry. Dr. Martin entered private practice in Dallas in 1966.

Dr. Martin was a member of Dallas County Medical Society, Texas Medical Association, American Medical Association, American Psychiatric Association, American Board of Psychiatry and Neurology, Texas Neuropsychiatric Association, and Phi Rho Sigma Medical Fraternity.

Survivors include his wife, Patsy Martin, Dallas; two sons, Paul Martin, Dallas, and David Martin, Houston; his mother, Mrs. Clara Martin, Austin; and one brother, David Martin, Corpus Christi.

Dr. Ferguson

Dr. Williams

Dr. J. H. Williams

Dr. Judson Harriss Williams, retired Austin family practitioner and surgeon, died March, 31, 1973, in St. David's Community Hospital, Austin. He was 71 years old.

Born in Giddings, Texas, Dr. Williams completed his preliminary education in Giddings and Austin before entering The University of Texas at Austin where he received a BA degree in 1922. He was graduated from The University of Texas Medical Branch at Galveston in 1927. After an internship at St. Mary's Infirmary (now a part of The University of Texas Medical Branch Hospitals), Galveston, Dr. Williams entered private practice in Smithville for a year before serving with The University of Texas Health Service from 1928 to 1929. In 1929, he returned to Galveston as associate professor of surgery at UTMB. In 1936, Dr. Williams resumed practice in

Dr. Peticolas

Dr. Pryor

Austin. He retired in 1969.
Elected to honorary membership in Texas Medical Association in 1972, Dr. Williams also held memberships in American College of Surgeons, Texas Surgical Society, Singleton Surgical Society, Travis County Medical Society, and American Medical Association.
He is survived by his wife, Dola Booth Williams, Austin; daughter, Mrs. SuAlice Jostes, Miami, Fla.; six brothers, Dr. W. E. Williams and Charles J. Williams, Austin, Knox Williams and John Williams, Houston, Roger Williams, Victoria, and Dr. Stephen A. Williams, Corpus Christi; and two grandchildren.

Dr. J. D. Peticolas
Family physician, Dr. John Davis Peticolas, lifelong El Paso resident, died April 8, 1973, in Providence Memorial Hospital. Cause of death was ventricular fibrillation, myocardial infarct.
A 1932 graduate of The University of Texas at Austin, Dr. Peticolas received his MD degree from The University of Texas Medical Branch at Galveston in 1936. After an internship at John Sealy Hospital, Galveston, he returned to El Paso and completed a residency at El Paso City County Hospital. His private practice was interrupted by military service in 1940, but he returned to El Paso in 1944 and resumed his family practice.
A member of Texas Medical Association, Dr. Peticolas also held memberships in American Medical Association and Alpha Omega Alpha Honorary Medical Society.
The physician is survived by his wife, Norma Peticolas, El Paso; two sons, James B. Peticolas, Amarillo, and Davis Peticolas, Houston; one sister, four brothers, and five grandchildren.

Dr. J. W. Pryor
Retired San Antonio anesthesiologist, Dr. Jessie Walker Pryor, died March 11, 1973. Heart failure and uremia were listed as causes of death.
Dr. Pryor, a native of Luling, Texas, was graduated from The University of Texas Medical Branch, Galveston, with an MD degree in 1920. While at Galveston, she was an instructor in anatomy from 1918 to 1919. After an internship at Woman's Hospital of Pennsylvania, Philadelphia, she became an instructor in surgery at Woman's Medical College of Pennsylvania, Philadelphia, from 1922 until 1928. Dr. Pryor returned to Luling in 1929 where she practiced until 1943. At that time, she took a two-year graduate course in anesthesiology at Hartford General Hospital, Hartford, Conn. Dr. Pryor then moved to San Antonio where she practiced anesthesiology until her retirement in 1968.
Elected to inactive membership in Texas Medical Association in 1968, Dr. Pryor was also a member of American Medical Association, Bexar County Medical Society, and American Society of Anesthesiologists. She was also a charter member of Alpha Omega Alpha, honorary medical fraternity.
Dr. Pryor's survivors include two sisters, Mrs. Dorothy Pryor Martin and Mrs. Nancy Pryor Hunter, both of Austin; and several nieces and nephews, and eleven grandnieces and nephews.

Dr. T. W. Taylor
Dr. Thomas Warren Taylor, Atlanta, Tex., family physician, died April 15, 1973, of an apparent heart attack. He was 45 years old.
A native of Kansas City, Mo., Dr. Taylor received his preliminary education in Enid, Okla., and obtained a BS degree from Northwestern State College, Alva, Okla.

He was graduated from the University of Oklahoma School of Medicine, Norman, with an MD degree in 1953. Dr. Taylor was associated with the Tulsa Clinic, Tulsa, Okla., for 13 years before opening his own practice in Tulsa. He moved to Atlanta two years later, where he remained until his death.

A member of Texas Medical Association, Dr. Taylor also held memberships in Tulsa County Medical Society, Oklahoma State Medical Association, Southern Medical Association, International College of Surgeons, American Society of Abdominal Surgeons, American Academy of General Practice, Cass-Marion County Medical Society, and American Medical Association. He was also active in civic and church organizations in Atlanta.

Dr. Taylor is survived by his wife, Georgia Ann Astley Taylor; four daughters, Pamela Sue Taylor, Beth Ann Taylor, Barbara Lynn Taylor, and Cheryl Kay Taylor; one son, Thomas W. Taylor, Jr.; his mother, Mrs. Leota Taylor; all of Atlanta; a sister, Mrs. Mary Edith Davis, St. Louis, Mo.; and two brothers, Fred R. Taylor, St. Louis, Mo., and Harry R. Taylor, Kansas City, Kans.

Dr. W. C. Wright

Dr. William Carver Wright, a family practitioner for nearly 60 years in Farmersville, died March 8, 1973, in Collin Memorial Hospital, McKinney.

Born in Farmersville in 1888, Dr. Wright was the son of pioneer Farmersville residents, William G. and Ella E. Carver Wright. After completing his preliminary education in his home town, he entered the old Mayo Normal College, now East Texas State University at Commerce. He was graduated from The University of Texas Medical Branch at Galveston with the highest marks in his class in 1913. After a one-year internship at Kansas City General Hospital and Medical Center, he served as an assistant on the medical staff at UT Medical Branch in Galveston for one year before returning to Farmersville as a family practitioner. During World War I, he was commissioned a first lieutenant in the US Army.

Dr. Wright continued partially active in his practice until he became terminally ill last fall, despite the fact that he had been legally blind for more than 20 years.

A member of the Collin County Medical Society, Texas Medical Association, American Medical Association, and Southern Medical Association, Dr. Wright was also active in local civic and church organizations, and was a director of the First National Bank for 30 years.

Surviving the physician are his wife, Corinne Pennington Wright, Farmersville; a daughter, Mrs. Emma Lou Quinius, Austin; three grandchildren, and two great-grandchildren; and one sister, Mrs. Ethel Stewart, Durant, Okla.

Dr. Wright

Dr. Johnson

Dr. B. F. Johnson

Austin family physician, Dr. Billy Frank Johnson, died May 10, 1973. He was 51 years old.

A 1942 graduate of The University of Texas at Austin, Dr. Johnson earned an MD degree from The University of Texas Medical Branch at Galveston in 1945. As a lieutenant in the US Navy, Dr. Johnson completed an internship at the US Naval Hospital, Hawaii. Upon discharge from the Navy, he entered a residency at Scott and White Clinic, Temple, which he completed in 1949. In 1950, Dr. Johnson was recalled by the Navy for one year, after which he moved to Austin and established his family practice.

Dr. Johnson was a member of American Academy of Family Practice, Travis County Medical Society, and Texas Medical Association.

The physician is survived by his wife, Carolyn Nevius Johnson, Austin; daugh-

Dr. Robbins

ter, Mrs. Deborah Osgood, Fayetteville, NC; son, Gary Johnson, Austin; mother, Mrs. Loula P. Johnson, Austin; and two brothers, Kenneth B. Johnson, Chevy Chase, Md.; and Pearce Johnson, Austin.

Dr. W. F. Ossenfort

Dr. William Frederick Ossenfort, retired career medical officer with the US Public Health Service, died March 16, 1973, at the age of 74. Myocardial infarction was the cause of death.

A native of Centaur, Mo., Dr. Ossenfort received a BS degree from Southeast Missouri State College, Cape Girardeau, Mo., in 1921. He was graduated with an MD degree from Washington University School of Medicine, St. Louis, Mo., in 1928. After an internship at US Public Health Service Hospital, New Orleans, La., Dr. Ossenfort was commissioned as a medical officer in the USPHS in 1928 and remained at the USPHS Hospital until 1932, at which time he was assigned to the Atlanta (Ga.) Federal Penitentiary as chief medical officer.

In 1935, Dr. Ossenfort opened the world's first federal narcotics hospital at Lexington, Ky., where he was executive officer until 1938, when the USPHS sent him to Fort Worth to open the second federal narcotics hospital. He served as medical-officer-in-charge there until 1942, and again from 1946 to 1948.

During his career with USPHS, Dr. Ossenfort represented them in Washington as Assistant Surgeon General; King's Point, L.I.; the Panama Canal Zone; and Iran. In 1952, he settled in Dallas to continue his work with USPHS until his retirement in November, 1972. Prior to his retirement he opened his own office for family practice from 1963 until 1971.

Dr. Ossenfort had served as a clinical assistant professor of psychiatry at The UT Southwestern Medical School, Dallas, and was a fellow of the American College of Physicians. He was also a member of the Dallas County Medical Society, Texas Medical Association, American Medical Association, Southern Medical Association, American Psychiatric Association, and American Public Health Association.

Survivors include his wife, Violet Benson Ossenfort, Dallas; son, Dr. William F. Ossenfort, Jr., Houston; one sister, Mrs. Dovie Simmons, St. Louis, Mo.; and four grandchildren.

Dr. J. B. Robbins

Dermatologist and director of the Venereal Disease Clinic in El Paso, Dr. Jacob Ben Robbins died May 3, 1973. He was 61 years old.

A native of El Paso, Dr. Robbins received his preliminary education in El Paso schools, including Texas College of Mines (now The University of Texas at El Paso). He attended The University of Texas at Austin, and received an MD degree from Baylor College of Medicine (then located at Dallas) in 1935. After an internship at El Paso City County Hospital, from 1935 to 1936, and a residency at Cook County Hospital, Chicago, from 1937 to 1939, Dr. Robbins returned to El Paso to establish his practice. In World War II he served as a lieutenant colonel in the US Army Medical Corps.

A past president of the Southwestern Dermatological Society, Dr. Robbins was also a member of American Academy of Dermatology, Texas Dermatological Society, El Paso County Medical Society, Texas Medical Association, and American Medical Association.

Dr. Robbins is survived by his wife, Ethel Bellman Robbins, El Paso; son, Dr. Louis Robbins, Boston; daughter, Mrs. Sandra Harris, Eugene, Ore.; sister, Mrs. Pearl Wildstein, El Paso; and five grandchildren.

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WARNINGS: Tetracycline usage during tooth development (last half of pregnancy to eight years) may cause permanent tooth discoloration (yellow-gray-brown), which is more common during long-term use but has occurred after repeated short-term courses. Enamel hypoplasia has also been reported. **Tetracyclines should not be used in this age group unless other drugs are not likely to be effective or are contraindicated.**
Usage in pregnancy. (See above **WARNINGS** about use during tooth development.)
Animal studies indicate that tetracyclines cross the placenta and can be toxic to the developing fetus (often related to retardation of skeletal development). Embryotoxicity has also been noted in animals treated early in pregnancy.
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To avoid excess systemic accumulation and liver toxicity in patients with impaired renal function, reduce usual total dosage and, if therapy is prolonged, consider serum level determinations of drug. The anti-anabolic action of tetracyclines may increase BUN. While not a problem in normal renal function, in patients with significantly impaired function, higher tetracycline serum levels may lead to azotemia, hyperphosphatemia, and acidosis.
Photosensitivity manifested by exaggerated sunburn reaction has occurred with tetracyclines. Patients apt to be exposed to direct sunlight or ultraviolet light should be so advised, and treatment should be discontinued at first evidence of skin erythema.
PRECAUTIONS: If superinfection occurs due to overgrowth of nonsusceptible organisms, including fungi, discontinue antibiotic and start appropriate therapy.
In venereal disease, when coexistent syphilis is suspected, perform darkfield examination before therapy, and serologically test for syphilis monthly for at least four months.
Tetracyclines have been shown to depress plasma prothrombin activity; patients on anticoagulant therapy may require downward adjustment of their anticoagulant dosage.
In long-term therapy, perform periodic organ system evaluations (including blood, renal, hepatic).
Treat all Group A beta-hemolytic streptococcal infections for at least 10 days.
Since bacteriostatic drugs may interfere with the bactericidal action of penicillin, avoid giving tetracycline with penicillin.
ADVERSE REACTIONS: Gastrointestinal (oral and parenteral forms): anorexia, nausea, vomiting, diarrhea, glossitis, dysphagia, enterocolitis, inflammatory lesions (with monilial overgrowth) in the anogenital region.
Skin: maculopapular and erythematous rashes; exfoliative dermatitis (uncommon). Photosensitivity is discussed above (See **WARNINGS**).
Renal toxicity: rise in BUN, apparently dose related (See **WARNINGS**)
Hypersensitivity: urticaria, angioneurotic edema, anaphylaxis, anaphylactoid purpura, pericarditis, exacerbation of systemic lupus erythematosus.
Bulging fontanels, reported in young infants after full therapeutic dosage, have disappeared rapidly when drug was discontinued.
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Rev. 6/73

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ief Summary

ications—Placidyl (ethchlorvynol) is indicated short-term hypnotic therapy in the management nsomnia.

traindications—Drug hypersensitivity and porria.

rnings—Not recommended during the first and ond trimester of pregnancy. Caution patients possible combined exaggerated effects with hol, barbiturates, tranquilizers or other CNS ressants. Exaggerated effects might result in rring of vision, paralysis of accommodation and found hypnosis. Caution patients concerning ing a motor vehicle, operating machinery, or er hazardous operations requiring alertness af- taking the drug. Administer with caution to ients with suicidal tendencies and do not pre- be large quantities of the drug. Adjustment of dosage of oral anticoagulants might be neces- when beginning ethchlorvynol therapy, during rapy, or after stopping therapy. This drug is recommended for use in children. PLACIDYL S THE POTENTIAL FOR THE DEVELOPMENT PSYCHOLOGICAL AND PHYSICAL DEPENDCE. INSTANCES OF SEVERE WITHDRAWAL MPTOMS, INCLUDING CONVULSIONS AND LIRIUM CLINICALLY SIMILAR TO THOSE SEEN TH BARBITURATES, HAVE BEEN REPORTED PATIENTS TAKING REGULAR DOSES AS LOW 1000 MG. PER DAY OVER A PERIOD OF ME WHEN THE DRUG WAS SUDDENLY DISNTINUED. PROLONGED ADMINISTRATION OF E DRUG IS NOT RECOMMENDED. Addictionne patients or those who are likely to increase sages of the drug on their own initiative should observed for evidence of signs or symptoms ich may indicate possible early withdrawal or stinence symptoms. Signs and symptoms assoted with withdrawal and abstinence include unual anxiety, tremor, ataxia, slurring of speech, mory loss, perceptual distortions, irritability, tation and delirium. Other less well defined ns and symptoms, not necessarily due to withwal and abstinence, may include anorexia, nau- or vomiting, weakness, dizziness, sweating, scle twitching and weight loss. Abrupt discontuance of Placidyl following prolonged overdose may result in convulsions and delirium.

cautions—Toxic amblyopia has been reported h long-term continuous use of ethchlorvynol. rmanent visual defects have been observed, alough amblyopia has improved after discontinuan of the drug. Drug dosage should be limited elderly and debilitated patients to the smallest ective amount. If pain is present, this drug ould only be given if insomnia persists after in is controlled with analgesics. Caution is aded in prescribing the drug for patients who are ing treated with either MAO inhibitors or antipressants. Transient delirium has been reported h the combination of Placidyl and amitryptyline. ug dosage should be reduced if prescribed for tients receiving MAO inhibitors or antidepresnts. Caution should be exercised in patients h impaired hepatic or renal function. Patients o respond unpredictably to barbiturates or alcol, or who exhibit excitement and release of inhiion in association with such agents, may also act in this way to Placidyl. Rarely, patients may hibit symptoms suggestive of an unusual susptibility to the drug; such as prolonged hypnosis, profound muscular weakness, excitement, hysteria, syncope without marked hypotension. Transient ddiness or ataxia may occur.

verse Reactions—Hypotension, nausea or vomng, gastric upset, aftertaste, blurring of vision, ziness, facial numbness, and allergic reaction pified by urticaria have been reported following acidyl administration. Mild "hangover" and symptns of mild excitation have occurred in some tients. There have been rare reports of cholestatic ndice occurring in patients taking ethchlorvynol. few cases of thrombocytopenia have been reted in patients receiving ethchlorvynol. 302430R

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Prophylactically, the ointment may be used to prevent bacterial contamination in burns, skin grafts, incisions, and other clean lesions. For abrasions, minor cuts and wounds accidentally incurred, its use may prevent the development of infection and permit wound healing.

CONTRAINDICATIONS: Not for use in the external ear canal if the eardrum is perforated. This product is contraindicated in those individuals who have shown hypersensitivity to any of the components.

PRECAUTION: As with other antibiotic preparations, prolonged use may result in overgrowth of nonsusceptible organisms and/or fungi. Appropriate measures should be taken if this occurs. Articles in the current medical literature indicate an increase in the prevalence of persons allergic to neomycin. The possibility of such a reaction should be borne in mind.

Complete literature available on request from Professional Services Dept. PML.

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While Valium can be a most helpful adjunct to your counseling, it should be prescribed only as long as excessive psychic tension persists and should be discontinued when you decide it has accomplished its therapeutic task. In general, when dosage guidelines are followed, Valium is well tolerated (see Dosage). For convenience it is available in 2-mg, 5-mg and 10-mg tablets.

Drowsiness, fatigue and ataxia have been the most commonly reported side effects.

Until response is determined, patients receiving Valium should be cautioned against engaging in hazardous occupations requiring complete mental alertness, such as driving or operating machinery.

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Before prescribing, please consult complete product information, a summary of which follows:

Indications: Tension and anxiety states; somatic complaints which are concomitants of emotional factors; psychoneurotic states manifested by tension, anxiety, apprehension, fatigue, depressive symptoms or agitation; symptomatic relief of acute agitation, tremor, delirium tremens and hallucinosis due to acute alcohol withdrawal; adjunctively in skeletal muscle spasm due to reflex spasm to local pathology, spasticity caused by upper motor neuron disorders, athetosis, stiff-man syndrome, convulsive disorders (not for sole therapy).

Contraindicated: Known hypersensitivity to the drug. Children under 6 months of age. Acute narrow angle glaucoma; may be used in patients with open angle glaucoma who are receiving appropriate therapy.

Warnings: Not of value in psychotic patients. Caution against hazardous occupations requiring complete mental alertness. When used adjunctively in convulsive disorders, possibility of increase in frequency and/or severity of grand mal seizures may require increased dosage of standard anticonvulsant medication; abrupt withdrawal may be associated with temporary increase in frequency and/or severity of seizures. Advise against simultaneous ingestion of alcohol and other CNS depressants. Withdrawal symptoms (similar to those with barbiturates and alcohol) have occurred following abrupt discontinuance (convulsions, tremor, abdominal and muscle cramps, vomiting and sweating). Keep addiction-prone individuals under careful surveillance because of their predisposition to habituation and dependence. In pregnancy, lactation or women of childbearing age, weigh potential benefit against possible hazard.

Precautions: If combined with other psychotropics or anticonvulsants, consider carefully pharmacology of agents employed; drugs such as phenothiazines, narcotics, barbiturates, MAO inhibitors and other antidepressants may potentiate its action. Usual precautions indicated in patients severely depressed, or with latent depression, or with suicidal tendencies. Observe usual precautions in impaired renal or hepatic function. Limit dosage to smallest effective amount in elderly and debilitated to preclude ataxia or oversedation.

Side Effects: Drowsiness, confusion, diplopia, hypotension, changes in libido, nausea, fatigue, depression, dysarthria, jaundice, skin rash, ataxia, constipation, headache, incontinence, changes in salivation, slurred speech, tremor, vertigo, urinary retention, blurred vision. Paradoxical reactions such as acute hyperexcited states, anxiety, hallucinations, increased muscle spasticity, insomnia, rage, sleep disturbances, stimulation have been reported; should these occur, discontinue drug. Isolated reports of neutropenia, jaundice; periodic blood counts and liver function tests advisable during long-term therapy.

Dosage: Individualize for maximum beneficial effect. *Adults:* Tension, anxiety and psychoneurotic states, 2 to 10 mg b.i.d. to q.i.d.; alcoholism, 10 mg t.i.d. or q.i.d. in first 24 hours, then 5 mg t.i.d. or q.i.d. as needed; adjunctively in skeletal muscle spasm, 2 to 10 mg t.i.d. or q.i.d.; adjunctively in convulsive disorders, 2 to 10 mg b.i.d. to q.i.d. *Geriatric or debilitated patients:* 2 to 2½ mg, 1 or 2 times daily initially, increasing as needed and tolerated. (See Precautions.) *Children:* 1 to 2½ mg t.i.d. or q.i.d. initially, increasing as needed and tolerated (not for use under 6 months).

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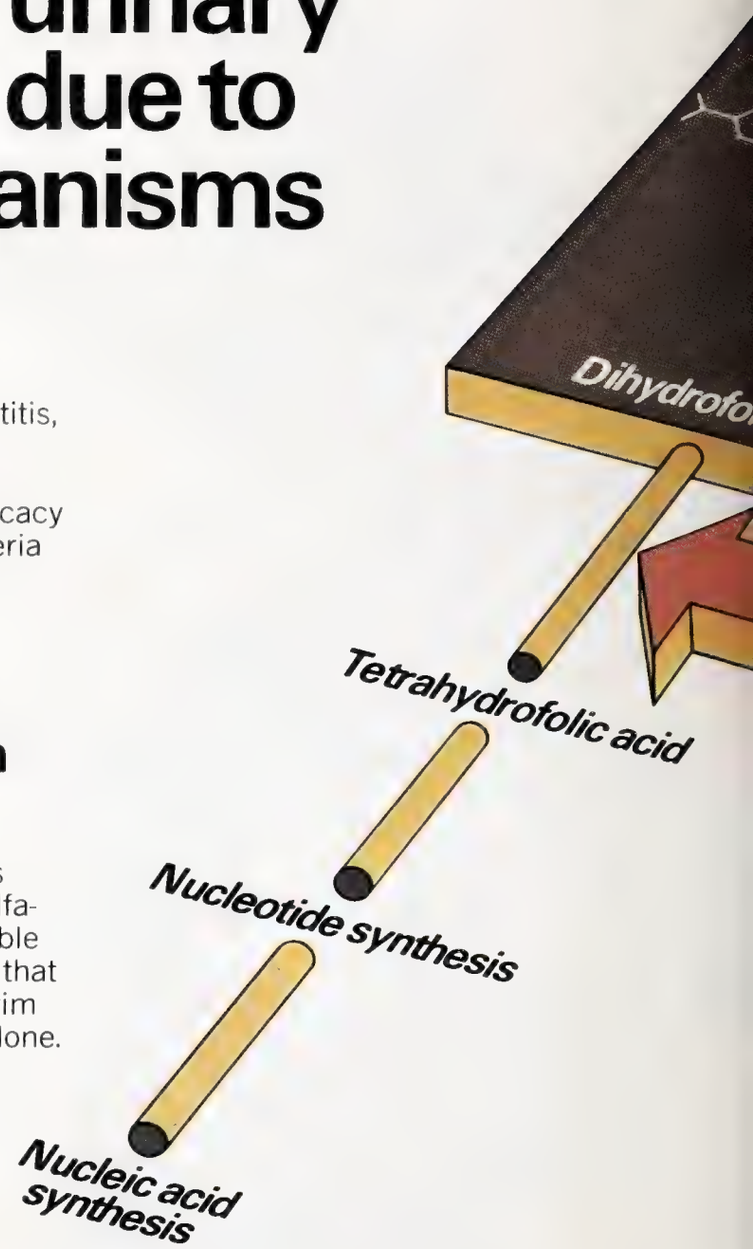

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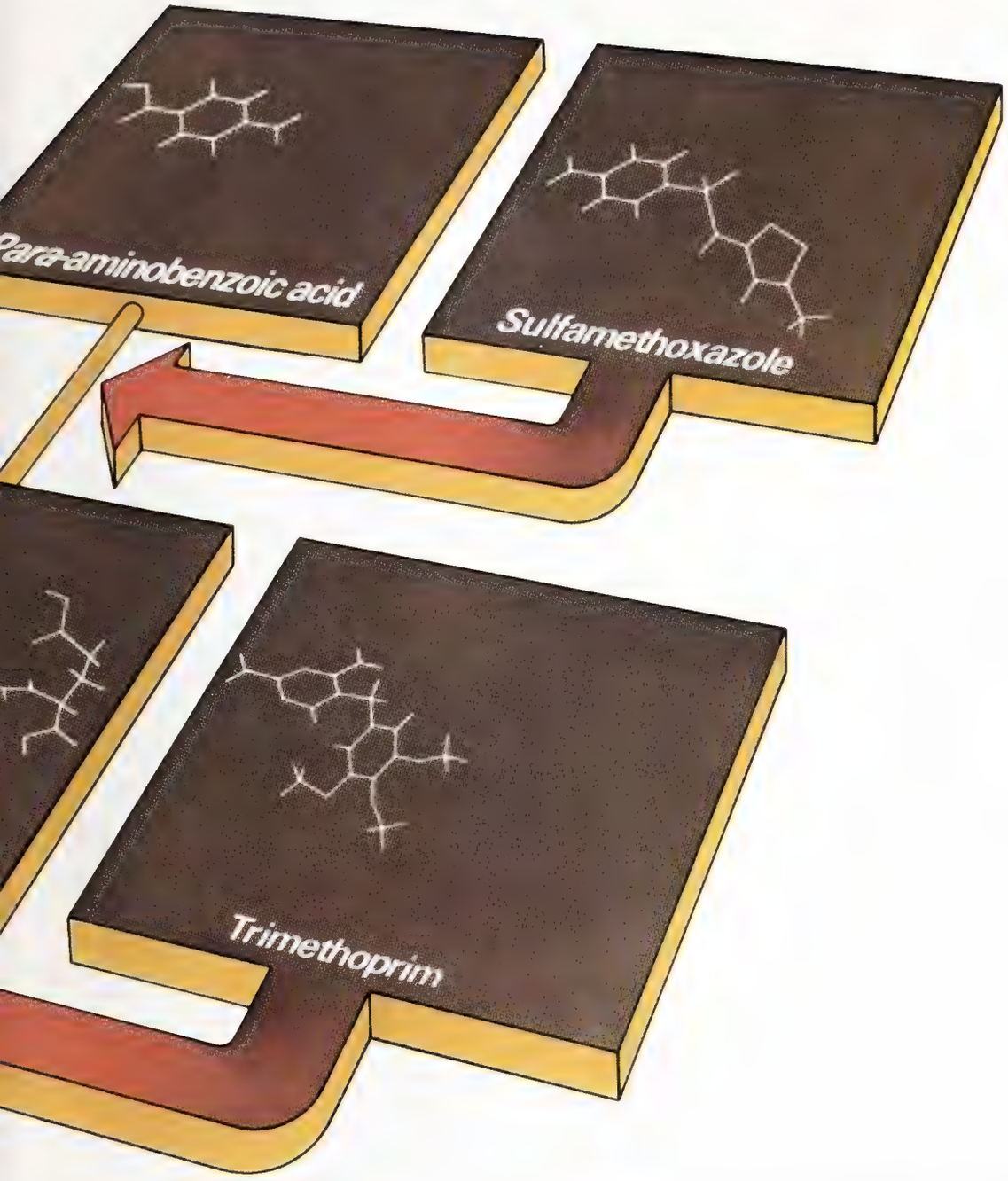

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Excellent response maintained

Bactrim proved equally impressive in maintaining this bacteriological response. In the above study, after ten-day therapy with Bactrim, 68.4% of patients with chronic urinary tract infections maintained response for up to 42 consecutive days, compared with 59.7% with trimethoprim and 44.4% with sulfamethoxazole. In patients with obstruction, 70.8% of those on Bactrim maintained response for up to 42 consecutive days, compared with 49.4% on trimethoprim and 38.8% on sulfamethoxazole. The figures are particularly remarkable in cases with urinary obstruction—cases regarded as being notoriously difficult to treat.

To date, low incidence of significant side effects

Although Bactrim demonstrated impressive clinical results, it is important to note that the incidence of clinically significant adverse effects was low, mainly nausea and/or vomiting, rash, leukopenia, SGOT increase and creatinine increase.

Bactrim should be given with caution to patients with impaired renal or hepatic function, possible folate deficiency and to those with severe allergy or bronchial asthma. Adequate fluid intake must be maintained. Complete blood counts, urinalyses with careful microscopic examination, and renal function tests should be performed during therapy.

Currently, the increasing frequency of resistant organisms is a limitation of the usefulness of all antibacterial agents, especially in the treatment of chronic and recurrent urinary tract infections.

Usual adult dosage: two tablets every twelve hours for 10 to 14 days; no loading dose required.

* Data on file, Hoffmann-La Roche Inc., Nutley, N.J. 07110
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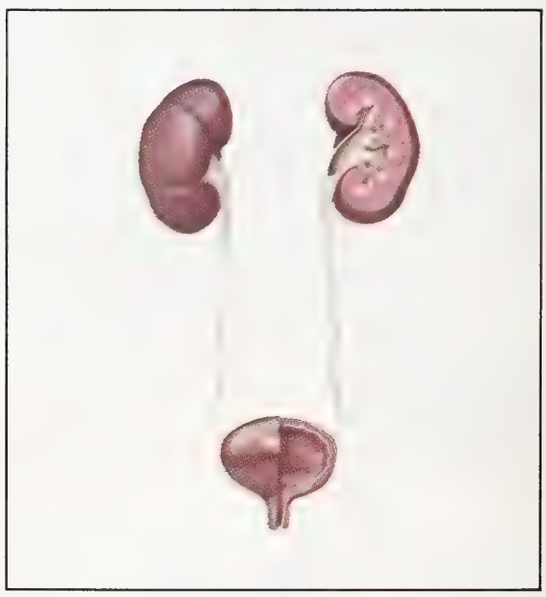

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Complete Product Information:

Description: Bactrim is a synthetic antibacterial combination product, available in scored light-green tablets, each containing 80 mg trimethoprim and 400 mg sulfamethoxazole.

Trimethoprim is 2,4-diamino-5-(3,4,5-trimethoxybenzyl) pyrimidine. It is a white to light-yellow, odorless, bitter compound with a molecular weight of 290.3.

Sulfamethoxazole is N^1-(5-methyl-3-isoxazolyl) sulfanilamide. It is an almost white in color, odorless, tasteless compound with a molecular weight of 253.28.

Actions: *Microbiology:* Sulfamethoxazole inhibits bacterial synthesis of dihydrofolic acid by competing with *para*-aminobenzoic acid. Trimethoprim blocks the production of tetrahydrofolic acid from dihydrofolic acid by binding to and reversibly inhibiting the required enzyme, dihydrofolate reductase. Thus, Bactrim blocks two consecutive steps in the biosynthesis of nucleic acids and proteins essential to many bacteria.

In vitro studies have shown that bacterial resistance develops more slowly with Bactrim than with trimethoprim or sulfamethoxazole alone.

In vitro serial dilution tests have shown that the spectrum of antibacterial activity of Bactrim includes the common urinary tract pathogens with the exception of *Pseudomonas aeruginosa.* The following organisms are usually susceptible: *Escherichia coli, Klebsiella-Enterobacter, Proteus mirabilis* and indole-positive proteus species.

Representative Minimum Inhibitory Concentration Values for Bactrim-Susceptible Organisms
(MIC—mcg/ml)

Bacteria	Trimethoprim alone	Sulfamethoxazole alone	TMP/SMX (1:20) TMP	TMP/SMX (1:20) SMX
Escherichia coli	0.05—1.5	1.0 —245	0.05—0.5	0.95— 9.5
Proteus spp. indole positive	0.5 —5.0	7.35 —300	0.05—1.5	0.95—28.5
Proteus mirabilis	0.5 —1.5	7.35 — 30	0.05—0.15	0.95— 2.85
Klebsiella-Enterobacter	0.15—5.0	0.735—245	0.05—1.5	0.95—28.5

Human Pharmacology: Bactrim is rapidly absorbed following oral administration. The blood levels of trimethoprim and sulfamethoxazole are similar to those achieved when each component is given alone. Peak blood levels for the individual components occur one to four hours after oral administration. The half-lives of sulfamethoxazole and trimethoprim, 10 and 16 hours respectively, are relatively the same regardless of whether these compounds are administered as individual components or as Bactrim. Detectable amounts of trimethoprim and sulfamethoxazole are present in the blood 24 hours after drug administration. Free sulfamethoxazole and trimethoprim blood levels are proportionately dose-dependent. On repeated administration, the steady-state ratio of trimethoprim to sulfamethoxazole levels in the blood is about 1:20.

Sulfamethoxazole exists in the blood as free, conjugated and protein-bound forms; trimethoprim is present as free, protein-bound and metabolized forms. The free forms are considered to be the therapeutically active forms. Approximately 44 percent of trimethoprim and 70 percent of sulfamethoxazole are protein-bound in the blood. The presence of 10 mg percent sulfamethoxazole in plasma decreases the protein binding of trimethoprim to an insignificant degree; trimethoprim does not influence the protein binding of sulfamethoxazole.

Excretion of Bactrim is chiefly by the kidneys through both glomerular filtration and tubular secretion. Urine concentrations of both sulfamethoxazole and trimethoprim are considerably higher than are the concentrations in the blood. When administered together as in Bactrim, neither sulfamethoxazole nor trimethoprim affects the urinary excretion pattern of the other.

Indications: Chronic urinary tract infections (primarily pyelonephritis, pyelitis and cystitis) due to susceptible organisms (usually *E. coli, Klebsiella-Enterobacter, Proteus mirabilis,* and, less frequently, indole-positive proteus species).

Important note: **Currently, the increasing frequency of resistant organisms is a limitation of the usefulness of all antibacterial agents, especially in the treatment of chronic and recurrent urinary tract infections.**

Contraindications: Hypersensitivity to trimethoprim or sulfonamides. Pregnancy and during the nursing period (see Reproduction Studies).

Warnings: Deaths associated with the administration of sulfonamides have been reported from hypersensitivity reactions, agranulocytosis, aplastic anemia and other blood dyscrasias. Experience with trimethoprim alone is much more limited, but it has been reported to interfere with hematopoiesis in occasional patients. In elderly patients concurrently receiving certain diuretics, primarily thiazides, an increased incidence of thrombopenia with purpura has been reported.

The presence of clinical signs such as sore throat, fever, pallor, purpura or jaundice may be early indications of serious blood disorders. Complete blood counts should be done frequently in patients receiving Bactrim. If a significant reduction in the count of any formed blood element is noted, Bactrim should be discontinued.

At the present time, there is insufficient clinical information on the use of Bactrim in infants and children under 12 years of age to recommend its use.

Precautions: Bactrim should be given with caution to patients with impaired renal or hepatic function, to those with possible folate deficiency and to those with severe allergy or bronchial asthma. In glucose-6-phosphate dehydrogenase-deficient individuals, hemolysis may occur. This reaction is frequently dose-related. Adequate fluid intake must be maintained in order to prevent crystalluria and stone formation. Urinalyses with careful microscopic examination and renal function tests should be performed during therapy, particularly for those patients with impaired renal function.

Adverse Reactions: For completeness, all major reactions to sulfonamides and to trimethoprim are included below, even though they may not have been reported with Bactrim.

Blood dyscrasias: Agranulocytosis, aplastic anemia, megaloblastic anemia, thrombopenia, leukopenia, hemolytic anemia, purpura, hypoprothrombinemia and methemoglobinemia.

Allergic reactions: Erythema multiforme, Stevens-Johnson syndrome, generalized skin eruptions, epidermal necrolysis, urticaria, serum sickness, pruritus, exfoliative dermatitis, anaphylactoid reactions, periorbital edema, conjunctival and scleral injection, photosensitization, arthralgia and allergic myocarditis.

Gastrointestinal reactions: Glossitis, stomatitis, nausea, emesis, abdominal pains, hepatitis, diarrhea and pancreatitis.

C.N.S. reactions: Headache, peripheral neuritis, mental depression, convulsions, ataxia, hallucinations, tinnitus, vertigo, insomnia, apathy, fatigue, muscle weakness and nervousness.

Miscellaneous reactions: Drug fever, chills, and toxic nephrosis with oliguria and anuria. Periarteritis nodosa and L. E. phenomenon have occurred.

The sulfonamides bear certain chemical similarities to some goitrogens, diuretics (acetazolamide and the thiazides) and oral hypoglycemic agents. Goiter production, diuresis and hypoglycemia have occurred rarely in patients receiving sulfonamides. Cross-sensitivity may exist with these agents. Rats appear to be especially susceptible to the goitrogenic effects of sulfonamides, and long-term administration has produced thyroid malignancies in the species.

Dosage and Administration: Not recommended for use in children under 12 years of age.

The usual adult dosage is two tablets every 12 hours for 10 to 14 days.

For patients with renal impairment:

Creatinine Clearance (ml/min)	Recommended Dosage Regimen
Above 30	Usual standard regimen
15-30	2 tablets every 24 hours
Below 15	Use not recommended

How Supplied: Tablets, containing 80 mg trimethoprim and 400 mg sulfamethoxazole—bottles of 100 and 500; Tel-E-Dose® packages of 1000; Prescription Paks of 40, available singly and in trays of 10. Imprint on tablets: ROCHE 50.

Reproduction Studies: In rats, doses of 533 mg/kg sulfamethoxazole or 200 mg/kg trimethoprim produced teratological effects manifested mainly as cleft palates. The highest dose which did not cause cleft palates in rats was 512 mg/kg sulfamethoxazole or 192 mg/kg trimethoprim when administered separately. In two studies in rats, no teratology was observed when 512 mg/kg of sulfamethoxazole was used in combination with 128 mg/kg of trimethoprim. However, in one study, cleft palates were observed in one litter out of 9 when 355 mg/kg of sulfamethoxazole was used in combination with 88 mg/kg of trimethoprim.

In rabbits, trimethoprim administered by intubation from days 8 to 16 of pregnancy at dosages up to 500 mg/kg resulted in higher incidences of dead and resorbed fetuses, particularly at 500 mg/kg. However, there were no significant drug-related teratological effects.

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Classified Advertising

Physicians Wanted

ORTHOPEDIC SURGEON AND TWO GP's needed by 19 doctor group, 100-bed fully accredited hospital. Salary open. Full partnership in one year. For additional details, write John B. Chester, M.D., 3330 South Lancaster Road, Dallas, Texas 75216.

UROLOGIST, board certified or eligible, to associate with a progressive and expanding multispecialty group in West Texas. Many fringe benefits including retirement program. No investment required. Adjoining accredited hospital. City population 35,000. Contact Ad-236, *Texas Medicine*, 1801 North Lamar Blvd., Austin, Texas 78701.

INTERNIST AND GENERAL PRACTITIONER WANTED by a five man group in a 10,000 population county seat town in Central Texas. The location is one hour from Dallas and Fort Worth, 30 minutes from Waco, and 20 minutes from Lake Whitney Dam. The clinic is located in the same building with a 50-bed, fully accredited hospital. The doctors have no hospital financial responsibility. Will start the right man at $30,000 salary for first year and full partnership after one or two years. It will be necessary to do more obstetrics. Please reply to Ad-301, *Texas Medicine*, 1801 North Lamar Blvd., Austin, Texas 78701.

DESIRE GP, SURGEON OR EENT. 16,000 population, rural area. Industry and ranching. Near metropolitan area. Good school system. Need association. Cleburne, Texas. For additional information contact Ad-363, *Texas Medicine*, 1801 North Lamar Blvd., Austin, Texas 78701.

ATTENTION PILOT PHYSICIANS: Combine emergency room work with flying. Group maintains Bonanza for business and pleasure. Please reply to Ad-365, *Texas Medicine*, 1801 North Lamar Blvd., Austin, Texas 78701.

GENERAL PRACTITIONER: Excellent location in the Lost Pines of Texas area. Growing community of 3,500 along the beautiful Colorado river has an excellent opportunity for a good family general practitioner. Excellent small hospital (25 beds) and nursing home (62 beds) complex. Guaranteed salary, clinic environment and other fringe benefits will make this difficult to turn down if interested in working in a progressive rural community. Write Ad-386, *Texas Medicine*, 1801 North Lamar Boulevard, Austin, Texas 78701.

FP OR IM TO JOIN THREE MAN GROUP. Investigate facilities, compatability, economics and environment personally with wife and family. Community Health Center, P.O. Box 672, Trinity, Texas. 713-594-3595 for Barnes, Colwell or Cook.

EMERGENCY DEPARTMENT PHYSICIAN IN TEXAS: Average earnings $45,000 with guarantee. Full department status. Maintain free practice of medicine. Work for patient on fee-for-service basis. Call 1-512-653-8221. Apply to Ad-417, *Texas Medicine*, 1801 North Lamar Blvd., Austin, 78701.

SMALL EAST TEXAS TOWN DESIRES GENERAL PRACTITIONER willing to work. We have the following to offer: large industrial payroll with new expansion program to increase plant 25%; can be in Toledo or Rayburn Lake in 15 minutes; new hospital district proposed; 60-bed nursing home to be built. Office space available. Support of community assured. Please reply to Ad-435, *Texas Medicine*, 1801 North Lamar Blvd., Austin, Texas 78701.

WHAT WE NEED, MONEY CAN'T BUY—we need you. GP/S/OB with anesthesiologist thrown in for smalltown practice, solo or duet. Two GPs in town ready to welcome you. Hospital in town, two nursing homes. Friendly life-style, career opportunity galore, work to suit your taste. No moon and stars, but you'll like what we have. Llano, Texas. Contact H. A. Raesener, Jr., AC915/247-5040 for particulars.

GENERAL PRACTITIONER AND INTERNIST. Newly constructed, multi-specialty, 6 man clinic in West Texas city of 180,000. New 120 bed hospital adjacent to clinic. Top salary with partnership opportunity in two years. Interested applicants send curriculum vitae to Ad-438, *Texas Medicine*, 1801 North Lamar Blvd., Austin, Texas 78701.

FAMILY PRACTICE PHYSICIAN NEEDED to join a three man group doing general practice. New community hospital and new clinic building under construction now, modern golf course, large lake, excellent hunting, excellent schools with no busing and no integration problems. 90 minutes from Dallas-Fort Worth. No investment necessary. Salary first year negotiable, with partnership after one or two years if desired. Contact K. J. Wharram, M. D. or A. D. Major, M.D., Nocona, Texas 76255. AC 817-825-3371.

FAMILY PRACTICE, with two other physicians. 50 bed hospital adjacent to clinic. Two nursing homes located in town. Large patient drawing area, good fishing, hunting, 8 miles to Lake Whitney, excellent schools, churches, and progressive small town. Guaranteed salary until established, partnership available in future. Contact Morris R. Hill, M. D. or James G. Barton, M. D. at Barton & Hill Medical Association, P. O. Box 546, Whitney, Texas 76692; phone AC817-694-2221.

GENERAL PRACTICE—Family practice with two other practitioners. New 43 bed hospital. No investments, other benefits negotiable to your desires, equal privileges, excellent income assured. Contact M. H. Shankles, Administrator, Shamrock General Hospital, 1000 South Main, Shamrock, Texas 79079. Telephone AC806-256-2114.

GENERAL PRACTITIONER OR INTERNIST for part-time work (10 to 12 hours per week) in industrial preventive medical program with petroleum firm in Corpus Christi area. Remuneration: $10,000 to $12,000 per year. Reply to Charles S. Ryan, M.D., 1608 Walnut Street, Philadelphia, Pennsylvania 19103 or call AC215-985-1600, Ext. 3310.

EMERGENCY ROOM PHYSICIAN—To become member of a 3-man group furnishing full-time emergency room coverage for active, modern, well equipped 288 bed JCAH hospital in North Central Texas within two hours drive of metropolitan areas, fishing and hunting resorts. Regular hours, none of the usual problems that are experienced in private practice, plus attractive guarantee. For more information call AC817-723-6767.

PHYSICIANS WANTED: INTERNIST AND/OR CARDIOLOGIST. AUSTIN. Excellent private practice opportunity for one or two internists, at least one of which should have subspecialty interest in cardiovascular disease. For details, write Ad-442, *Texas Medicine*, 1801 North Lamar Blvd., Austin, Texas 78701.

RADIOLOGIST TO JOIN THREE RADIOLOGISTS in active practice of radiology, hospital and private office. Full range of diagnostic, therapeutic, nuclear medicine and special procedures. Excellent financial arrangement, early partnership. Radiologist needed July 1973. Will consider physician available Jan. 1974. Write or call Radiological Associates, 1901 Medi Park Place, Amarillo, Texas 79106. AC806-355-9473.

WANTED: GENERAL PRACTITIONER OR INTERNIST on staff of San Angelo Center. This is an institution for the moderately mentally retarded of the state. Salaries are quite competitive with other state and federal institutions. 40 hour work week, ample vacation time, and other fringe benefits. Excellent community to live, near San Angelo, Texas. Contact Medical Director, San Angelo Center, Carlsbad, Texas 76934.

WANTED: GENERAL PHYSICIANS for Big Spring State Hospital, JCAH accredited, with affiliations with Texas Tech Medical School and Baylor College of Medicine. Salary $24,000 to $27,000 depending on experience. Liberal vacation and sick leave, holidays, regular hours, hospitalization insurance partially paid by hospital. Write or call Preston Harrison, M.D., Big Spring State Hospital, P.O. Box 231, Big Spring, Texas 79720. Equal opportunity employer.

NEEDED—INTERNIST TO ASSOCIATE with three busy GP's in Central Texas university town. No internist in area. Should be nice place to live and work. Please reply to Ad-457, *Texas Medicine*, 1801 North Lamar Blvd., Austin, Texas 78701.

TWO INTERNISTS NEEDED by internal medicine group of seven internists and cardiologists. Consultation and referral practice. Houston environs. Prefer one general internist and one internist with major interest in cardiology. Salary open. Excellent opportunity and living area. Multiple maximum fringe benefits. Please reply to AD-458, *Texas Medicine*, 1801 North Lamar Blvd., Austin, Texas 78701.

STAFF PHYSICIANS WANTED NOW: Prefer pediatricians, internists, neurologists, or family practitioners. Texas license required. Base salary $24,000 (Sept. 1, 1973). Bonus available depending on training, experience, specialty boards. Richmond State School is an attractive 5-year old rapidly expanding residential facility for the retarded located in a community of 18,000 only 30 minutes from Houston, Texas. The institution is expanding from 800 to 1250 beds, with a 72-bed hospital on campus for management of acute medical problems. On campus specialty consultation clinics are held regularly by the teaching staff of the three nearby medical schools. Contact K. R. Lewis, M.D., Medical Director, Richmond State School, 2100 Preston Street, Richmond, Texas 77469. Phone 713-342-4681.

PHYSICIAN—TEXAS DEPARTMENT OF MENTAL HEALTH AND MENTAL RETARDATION. Abilene State School needs another full-time physician (general practitioner or internist) to join our staff. Base annual salary $23,000-$25,500 with a supplement of $1,000-$3,000 if board certified and working full time in that capacity. Base salary increase slated for September 1st. Forty-hour week, two week paid vacation, good sick plan, plus about 12 holidays a year. Social Security and excellent State Retirement Plan. New modern air-conditioned hospital with medical director, four staff physicians, two dentists and twelve R.N.s. Please contact O. V. Milstead, Personnel Director, P.O. Box 451, Abilene, Texas 79604. Telephone 915-692-4053. Equal opportunity employer.

PHYSICIAN WANTED: South Central Texas area. FP, internist or general surgeon oriented to FP. Two man group; fully-equipped, modern clinic, 36-bed hospital which has recently undergone major additions and renovations. 35,000 drawing area; good schools, all denominations represented. Recreational facilities include hunting and fishing. German-Czech background. Ranching and manufacturing represent major income. Reply to Medical Associates, 511 Summit Street, Schulenburg, Texas 78956. Telephone: (713) 743-4131.

GENERAL SURGEON—established surgeon would like to contact young general surgeon who desires to locate in Sa[illegible] reply to Ad-463, *Texas Medicine*, 1801 North Lamar Blvd., Austin, Texas 78701.

EMERGENCY DEPARTMENT PHYSICIAN NEEDED for expanding 360-bed hospital in Southeast Texas. Guaranteed minimum annual compensation of $30,000. (42 hours per week). Postgraduate programs available in nearby Houston. Excellent area for hunting, fishing in moderate year-round climate. Contact Vice President, St. Elizabeth Hospital, P.O. Box 5405, Beaumont, Texas.

FAMILY PHYSICIAN: This is an opportunity you should look into. Three family practice physicians need fourth man. No capital outlay, equal privileges, no buy-in, guarantee until established, set your own pace. Clinic, 40-bed hospital, 44-bed extended care, accredited by JCAH. Contact Ray W. Freeman, M.D., Chief of Staff, or Gordon Russell, Administrator, Hi-Plains Hospital-Clinic, 203 West 4th, Hale Center, Texas 79041. Call 806, 839-2471.

WANTED—INTERNIST OR GENERAL PHYSICIAN interested in career in occupational health. Position now available in refinery medical department of major oil company in Texas. Excellent compensation and benefit program with opportunity for attractive advancement. Send resume with all particulars to Dr. H. B. Snyder, P.O. Box 2180, Houston, Texas 77001.

PRIVATE INDEPENDENT SOLO, ASSOCIATE AND GROUP PRACTICES in Houston, Dallas, Baytown, Sugarland, Conroe and Hillsboro. Not an employment agency. No cost or obligation to physician. High monthly income guaranteed. General practice, internal medicine, orthopedic surgery, OB/GYN and anesthesiology. Write with C.V. and preferences to Sanford Smith, Director of Physician Planning, Hospital Management Corporation, P.O. Box 9836, 12421 East Freeway, Houston, Texas 77015. 713, 453-6324.

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WANTED—LOCUM TENENS for month of October, 1973. GP—one doctor clinic, small East Texas town, need vacation. Please reply to Ad-464, *Texas Medicine*, 1801 North Lamar Blvd., Austin, Texas 78701.

FAMILY PHYSICIAN—Locum tenens needed in small East Texas town for period of October 1 through November 15. Would consider permanent associate. Please reply to Ad-468, *Texas Medicine*, 1801 North Lamar Blvd., Austin, Texas 78701.

THREE PHYSICIANS NEEDED. FAMILY PRACTICE PHYSICIAN, INTERNIST AND SURGEON needed to join a full time, five man clinic association group with part time radiologist and clinical pathologist in Clifton, Texas. Located in the heart of Texas, 35 miles NW of Waco, 15 miles from Lake Whitney. Good fishing, excellent hunting, new, recently completed, modern golf course. Excellent schools, churches and growing progressive small town. Closely associated with new 65-bed hospital facility, which is fully accredited by the Joint Commission. Suggest salary at first with partnership in future. Financial terms open. Please contact V. D. Goodall, M.D., Clifton Medical and Surgical Clinic Association, Clifton, Texas 76634. Telephone 675-8621 or 675-3113.

SIXTY-PHYSICIAN GROUP IN HOUSTON, TEXAS, Gulf Coast area, needs board eligible or certified pediatrician for new branch office in excellent suburban area. Eligible for partnership after two years. Excellent fringe benefits and retirement program. Teaching opportunities in nearby medical school and hospital staff privileges available. Call or write J. A. Bakken, Administrator, Kelsey-Seybold Clinic, 6624 Fannin Street, Houston, Texas 77025.

INSTITUTIONAL PHYSICIAN needed ½ time, salaried. Particularly attractive for someone new to the area or perhaps retired. ½ time local association possible. For particulars, call Dr. William R. Nail, AC 214-542-2623. McKinney Job Corps Center for Women, P.O. Box 750, McKinney, Texas 75069. An equal opportunity employer.

FAMILY PRACTICE/GENERAL SURGERY ASSISTANT required for well equipped clinic, 30-bed county hospital, nursing home. Guaranteed minimum $36,000 first year plus opportunity to buy clinic. Excellent recreation area between Houston and Galveston, near Gulf. Send C.V. to Ad-469, *Texas Medicine*, 1801 North Lamar Blvd., Austin Texas 78701 or call collect (312) 341-9462.

OPPORTUNITIES AWAIT PHYSICIANS in Central Texas' fastest growing city. Present potential area clientele 25,000. Ideal moderate climate, pollution-free air, excellent schools and churches, various recreational facilities in progressive city building for family living. Call collect L. Ledger, 817-547-3325 or Drawer C, Copperas Cove, Texas.

Situations Wanted

RADIOLOGIST, board eligible, available for locum tenens July 1973. Diagnosis only. Prefer Houston or Gulf Coast locations, but will consider others. Direct responses to Ad-456, *Texas Medicine*, 1801 North Lamar Blvd., Austin, Texas 78701 or call AC713-462-8466 or AC713-771-6109.

DENTAL TEAM DESIRES TO PARTICIPATE in busy medical clinic or complex anywhere in Texas. Full dental services offered including children's dentistry, orthodontics, surgery, and prosthetics. Inquiries welcomed. Dr. Carol or Dr. Jim Kehoe, 2828 61st Street, Galveston, Texas 77550. After 6 p.m. call AC713-744-7526.

ENERGETIC 38 year old broadly trained, experienced, board certified, FACS general surgeon seeks partnership/group/association to spend full time in trauma and general surgery practice. Hospital positions selectively acceptable, but no VAH or GP/surgeon offers considered. Minimum first year guarantee $38,000 net. Please reply to Ad-466, *Texas Medicine*, 1801 North Lamar Blvd., Austin, Texas 78701.

OBG 39 years old board certified; fellow of the ACOG, would like to relocate in the Dallas-Fort Worth or San Antonio areas; other areas will be considered. Preference solo or partnership. Please reply to Ad-465, *Texas Medicine*, 1801 North Lamar Blvd., Austin, Texas 78701.

OPHTHALMOLOGIST, 30, married, military service completed, conscientious and willing to work, will complete top university residency with good medical and surgical experience in June 1974, wishes to return to Texas for practice opportunity with established individual(s). Norman L. Edelstein, M.D., 4742 Centre Avenue, Apt. 704, Pittsburgh, Pennsylvania 15213, (412) 683-0794.

INTERNIST-CARDIOLOGIST, experienced. Licensed FLEX, Texas, New Mexico, New England. Practice limited to clinical cardiology and non invasive techniques. Willing to consider internal medicine. FMG. Seeks partnership, group. Percent, minimum guarantee, regular hours. Prefer large city. Available early 1974. Write for details Ad-467, *Texas Medicine*, 1801 North Lamar Blvd., Austin, Texas 78701.

ADMINISTRATOR—Clinic manager, investor wants to affiliate with physician group to purchase hospital. Can recruit staff. Have hospitals that can be purchased. Can offer great track record. Call AC214-522-8877 or write Administrator, Box 12633, Dallas, Texas 75225.

HIGH VOLUME MEDICAL PRACTICES WANTED by physicians. General practices and specialties. Our buyer contracts are nationwide. Professional Practice Sales, 1215 Walker Avenue, Suite 1001, Houston, Texas 77002, (713) 222-9112.

For Sale or For Rent

SOUTHEAST MEDICAL CENTER has customized suites available for immediate occupancy, 100 feet from Southeast Baptist Hospital. Ideal location in established quadrant of San Antonio where no medical specialists are offered. Only 17 minutes by freeway from downtown. Contact Manager, 4242 East Southcross, San Antonio 78222. Phone 222-2103.

FAMILY PHYSICIAN WANTED—Assume practice of deceased physician in lucrative area of San Antonio. No payment for records or practice. Wish to lease over 2000 square feet of space on a three to five year basis. For additional information contact H. Graham Wilson, Jr., D.D.S., 6722 South Flores Street, San Antonio, Texas 78221; telephone AC512-922-2166.

FOR SALE—MEDICAL EQUIPMENT consisting of Picker x-ray and fluoroscope, electrocardiogram machine, four examining tables, two hospital beds, cassettes and x-ray developing tank, sterilizer, autoclave, cabinets, reception room furniture, recovery bed and recovery couch, transilluminators. All in excellent condition. For additional information contact Dr. R. F. Sowell, Sr., P.O. Box 2249, San Marcos, Texas 78666.

HOUSTON GENERAL PRACTICE for sale. High volume, good residential area. Net $100,000. 25% industrial 10% surgery, no OB. 3,000 square foot office with x-ray and lab. Selling price $38,000. Professional Practice Sales, 1215 Walker Avenue, Suite 1001, Houston, Texas 77002, (713) 222-9112.

IDEAL LOCATION FOR ENT specialist or dentist in northwest Houston. Next door to three medical doctors. Spanish speaking physician would be especially welcome. Phone 713-673-3621.

FOR LEASE: OFFICE in medical center near St. David's Hospital in Austin, Texas. Owner will remodel to suit needs. Contact Roger Hanks, Realtor, 125 West 6th Street, Austin, Texas 78701 or call collect 512-476-7011.

OFFICE SPACE FOR RENT—available furnished or unfurnished. Seeking family physician to be located in same building with two other family physicians. Please reply to Dr. Williams and Dr. Baggett, 7 Medical Arts Square, Austin, Texas 78705.

GENERAL PRACTITIONER, INTERNIST, PEDIATRICIAN, or other specialist wanted for newly constructed professional building in booming southwest Houston. Proximity to hospitals and freeway system. Centrally located in major growth area. Custom designed suites are available for immediate occupancy. For information contact Don Berthelsen, 8811 Frankway, Houston, Texas. Telephone AC 713-664-6664.

FOR SALE—Bungalow office building on McRae Blvd., East El Paso. Located adjacent to shopping center in growing area. Occupied last several years by two dentists. Property in excellent condition. New hospital under construction nearby. Ideal for GP. Write for pictures and detailed information. Dr. C. W. Shahan, 3117 McRae Blvd., El Paso, Texas 79925. AC915-598-4941.

FOR LEASE—MEDICAL OFFICES. For general or specialty practice. Pleasant growing Nasa-Clear Lake area with two new, fully equipped, space age hospitals. Reasonable rent, good location in a professional building with a pharmacy. Contact L. E. Lake, 2622 Nasa Blvd., Seabrook, Texas. Phone 713-334-1555.

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Editorials

TMA COSTS, SERVICES INCREASE

In 1974, dues for membership in the Texas Medical Association will be increased from $70 to $80 per year.

Like almost everything else, the cost of running the association has risen, and at last May's Annual Session, the TMA Board of Trustees asked for and received permission to increase membership dues by $10 in 1974, and to levy an additional $5 when needed.

But unlike many other things, physicians who pay dues to the Texas Medical Association know that their money will be used solely to provide services for members—services which will directly or indirectly benefit the Texas medical profession.

Almost every year, these services are being improved, added to, or expanded, all to meet the changing needs of the profession. Texas physicians also are using these services more, which is one reason a dues increase is necessary. Some of the services which membership dues finance include:

The Memorial Library. In 1972 the Library staff processed 10,533 reference requests, an increase of 10% over the preceding year. Film usage was up 26%, and loans of tapes and cassettes increased by 24%. In addition, the Library has installed Medline, which provides almost instantaneous searching of the literature for any association member.

Texas Medicine. Several changes have been made recently in the continuing efforts to make *Texas Medicine* a better publication. The Continuing Education Directory, published in the January issue and mailed separately to members, lists more than 100 courses, twice as many as in 1972. The directory is one of the most important sources of continuing education information in the state.

Auto leasing. Introduced this year, the association's auto leasing plan offers TMA members the opportunity to lease the automobile of their choice at a cost which is substantially less than conventional plans.

Insurance. TMA's group disability insurance plan is an outstanding one. In addition, a new health insurance plan was made available this year for employees of physicians.

Representation for physicians. This aspect of association activities is becoming more and more important. Physicians rightfully expect their state association to stand up for them, to negotiate for them, and to represent them in discussions with government and third parties. TMA is attempting to do this through efforts of its officers, the new Council on Tax-Financed Health Care Programs, the new Office of Government Health Programs, and now through implementation of the Texas Medical Foundation. Significant efforts this year included discussions with Aetna Life and Casualty, and appeals to the President and to Congress for relief from discriminatory Phase III economic controls. Association staff members are constantly monitoring government activities and regulations for changes which may affect the medical profession.

Communication. The association is striving to communicate more effectively and more frequently with its members and with the public. Eight issues of *TMA Action* and four issues of *TMA Bulletin* were published in 1972. This year a new publication, *TMA Legislative Bulletin,* was introduced to keep members informed of important events in the Texas Legislature. In addition, plans for communicating more effectively with the public are under way, with an eye toward disseminating health information and improving the image of the practicing physician.

Even with all this activity, a recent survey shows Texas Medical Association is among those state societies which charge very low dues. Only Massachusetts, New Jersey, and Virginia charge

less. In other states dues range up to $200—34 states charge $100 or more. Only three states—California, New York, and Pennsylvania—have more members than Texas. These three states charge dues of $110, $100, and $100, respectively. Texas, with lower dues than these large states, has membership services which compare quite favorably.

So even though the cost of doing business may go up, TMA wants to ensure that member services do not suffer. Texas physicians can expect to get more service than ever, as a matter of fact. Money spent on dues is returned to the physicians of Texas in the form of services which will benefit them and their practices—services which we believe are among the best and most effective in the nation.

PARENTICARE

The other day, a man age 40, came to my office with a palm thorn in his right shin. I removed it. When I asked him about tetanus immunizations, he allowed as he may have gotten a shot some five years ago in Dr. R.'s office. Inquiry at Dr. R.'s office led nowhere. They had no record. The man had gone to school in Mexico where shots were not routinely given (neither were they here that long ago); had never served in the armed forces of any country, had no significant history of accidents, and thus probably had no basic immunity. I had to give him an injection of human tetanus antitoxin and another one of diphtheria-tetanus toxoid, and I will give him two more injections of the same, if he comes back.

I asked him about his family. His wife had not had any immunizations either. His seven children, on the other hand, have had all the routine shots and oral polio vaccine at Dr. R.'s office ("costs me $21.00 each time I take them for their shots there . . .").

What little sense it makes to provide such preventive medicine to a large group of children, but not to their parents! What a catastrophe it would be if the breadwinner or the housewife were to be a victim of tetanus (or diphtheria) and how much more would such a catastrophe disrupt the family than tetanus or diphtheria in one of the children!

The message of this is clear: If we want health stability for the families we look after, we must push for routine immunizations of parents as strongly as for that of their children. A child's avoidable death would be a tragedy, but the avoidable death of a parent would be a major catastrophe, and if it were due to lack of immunization, the family physician could never forgive himself if he did not urge the parents to be immunized.

This brings up another matter: ever since the Social Security System began, the government has urged people to carry their Social Security cards with them always. The AMA and others have made wallet-sized cards available. They usually consist of several pages, but are still quite easy to handle. The cards have spaces for essential medical information, such as immunization records, allergies, long-term medications, and essentials of past medical, surgical, and obstetrical history. If people would carry them as faithfully as they carry their Social Security cards, it would help doctors to care for them properly. No one has pushed the use of these cards very hard. If we doctors won't do that and keep them current, health planners will have reason to say, "American Medicine doesn't really care." The time to take the wind out of their sails is now! If it can be done for the Social Security card, it can be done for a brief health record, and the few seconds you and I would have to spend to keep it current would be well spent.

Heinrich Lamm, MD, Harlingen, Texas.

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ADVERTISING RATES & DATA: Available on request from the Advertising Director, Texas Medicine. Advertising plates should be sent directly to the printer. Space reservations, copy and proofs should be sent to the Advertising Director. Represented nationally by the State Medical Journal Advertising Bureau, Inc., 1010 Lake Street, Oak Park, Ill. 60301.

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Hope for American Medicine

At a recent meeting of state medical society presidents in New York, it was my privilege to hear an address by Harry Schwartz of the New York Times. Mr. Schwartz is the author of the recently published book, *The Case for American Medicine*—a realistic look at our health care system. I suggest that every physician in Texas buy and read this book, for it contains specific information and details about the quality of medicine as it is practiced in the United States. I also suggest that each state representative and senator be given a copy of this book by county medical societies, and that TMA supply copies to US Congressmen and senators. The book is well-written and easy to read, and I believe it would be well-received.

Mr. Schwartz states that "American medicine is now at the height of its capability, providing more—and more effective—help to a larger number of people than ever before. At almost every point along the frontiers of the fight against death and disability, American physicians and medical researchers are the world leaders. They are setting new standards of excellence in such diverse fields as heart and kidney transplants, knee and hip replacements, treatment of leukemia and hypertension, the prevention of RH incompatibility, and the application of new weapons against hyaline membrane disease in newborn babies. Yet never before has so ferocious an attack upon American medicine been mounted as in recent years, an attack that too often leaves a high road of recent criticism and dissent to emotionalism and misrepresentation."

Mr. Schwartz says he is under no illusion that American medicine is perfect or beyond improving. He says he is aware that particular institutions and individuals in the American medical system may perform below par and may deserve severe criticism. He also states that the system's inadequacies may be in need of a remedy. This is a far cry from the claim that we are in a health care crisis of such magnitude and gravity that only the most radical surgery will set matters aright.

Mr. Schwartz points out that "many opponents of the present system are ideologically motivated and essentially want to nationalize and bureaucratize American medicine; however, in an aura of increasing disenchantment with Big Government, increasing the role of government in medical care would bring to this vital area many of the problems that plague such government-dominated areas as education, welfare, and arms production . . . Yet the American medical system—pluralistic, complex, and ever-changing—has served the American people well. It can continue to do so if the aim of change is to increase the choices of both health care providers and those who need their help. Those who would collectivize American medicine to satisfy their ideological preferences would have cause to regret the results when they themselves require medical care for serious illness."

I hope that this book is made available to all of our representatives —some of whom are interested in changing the American way of medicine.

Charles B. Dryden M.D.

Charles B. Dryden, MD, President
Texas Medical Association

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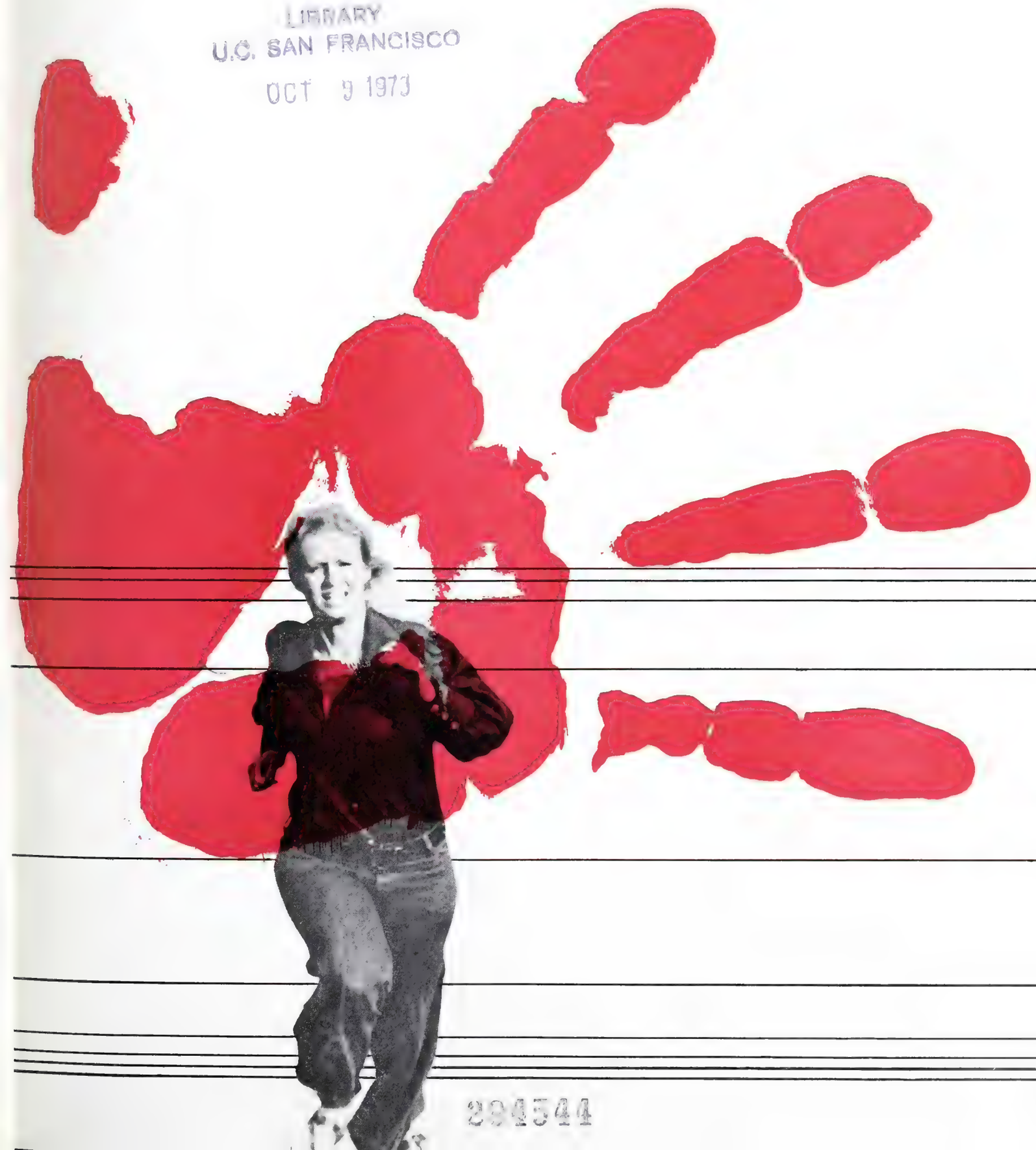

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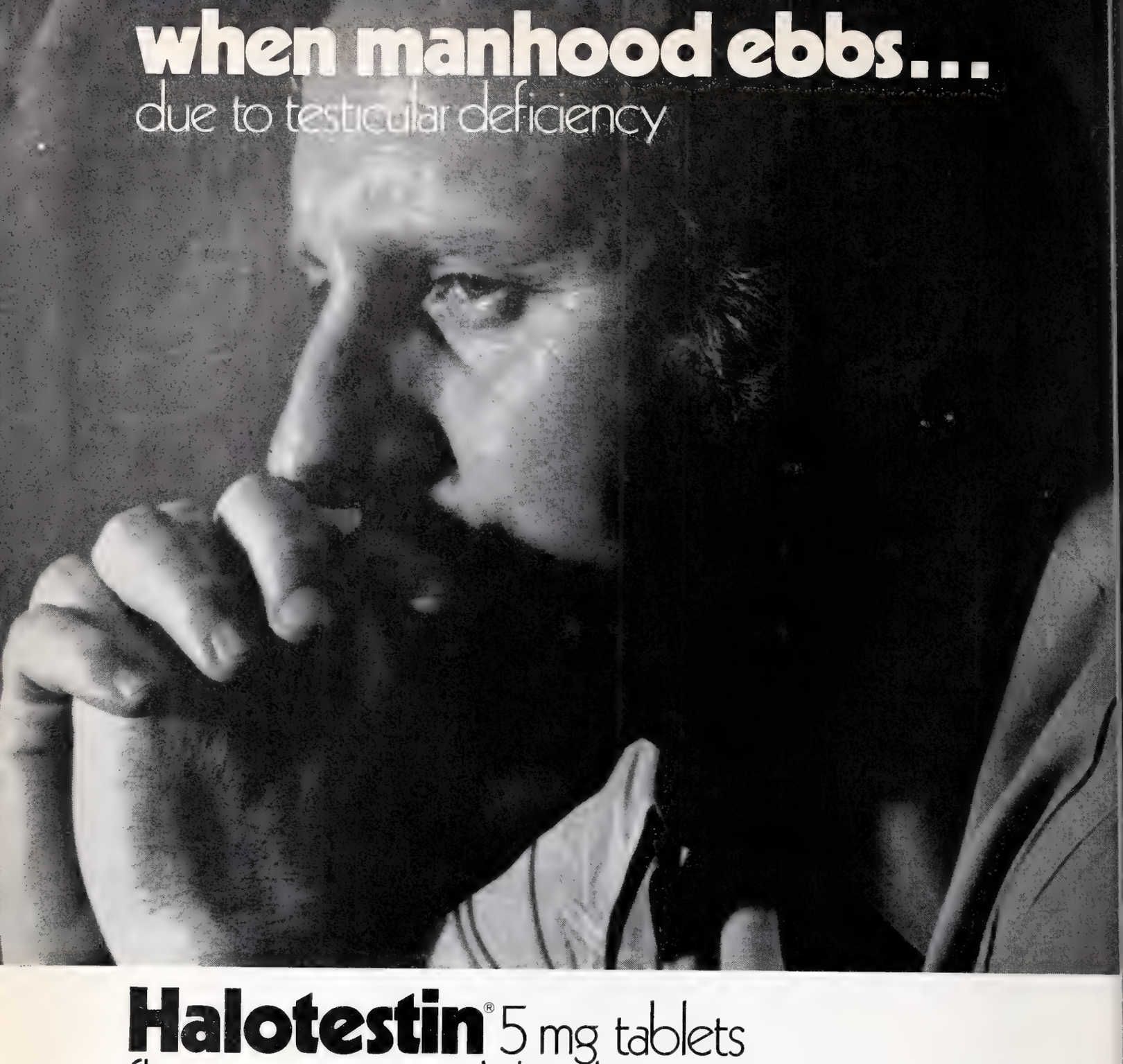

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Subscriptions: $3 per year for members; $6 for nonmembers; $8 for foreign; $5 for libraries, hospitals, and universities; $3 for medical students. Single copy: $1.

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ON THE COVER

Rape is not a diagnosis; it is a matter of jurisprudence. Thus, the physician who examines a woman reporting sexual assault has both medical and legal responsibilities. The article beginning on page 59 offers a step-by-step guide to help physicians fulfill their duties to both the patient and the law.

NEXT MONTH

Topics of October's articles will include the multiple drug user; the physician's role in learning disabilities; importance of Dilantin blood levels in the management of the epileptic patient; traumatic tricuspid insufficiency; cardiovascular complications of total hip replacement; surgical management of rheumatoid arthritis of the upper extremity; muscle biopsy in neuromuscular disease; and subarachnoid hemorrhage due to malignant schwannoma of the cauda equina.

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Outstanding speakers to highlight fall Conference

NEWS

Plans are under way for TMA's fall Conference on Medical Service and Practice Management in Austin Oct 6.

National authorities from the medical and business sectors will discuss such topics as utilization review, Phase 4 price controls, fee profiles, HMOs, PSROs, tax exempt investments, financial management, and time management for physicians.

Registration is slated to begin at 8:30 am followed at 9 am by introductory remarks from Dr. Charles B. Dryden, TMA president.

Morning speakers include Dr. John R. Kernodle of Burlington, NC, chairman of the AMA Board of Trustees. Dr. Kernodle will speak on issues and challenges for physicians. Dr. Joseph T. Painter will speak on developments relating to the implementation of PSRO in Texas. Also scheduled is Vaughn G. Alexander of Chicago, AMA program director for computer systems in medicine.

A mid-morning session on utilization review and utilization will be presided over by Dr. Ed W. Schmidt, TMA president-elect. Speakers presenting various aspects of these issues are Dr. Frank J. Jirka of Berwyn, III, immediate past-president of the Illinois State Medical Society; Dr. James L. Henry of Grove City, Ohio, president-elect of the Ohio State Medical Society; and Dr. Alan R. Nelson of Salt Lake City, president of the Utah Professional Review Organization.

The morning will be concluded with a discussion on wage-price controls, utilization and physicians' fee profiles by Dr. William Fred Lucas of Dallas, associate medical director of Blue Cross-Blue Shield of Texas.

Presiding over the afternoon session will be Dr. Paul R. Meyer, TMA vice-president. The program will begin with the presentation of the Association's Distinguished Service Award to Dr. Howard O. Smith of Marlin.

Dr. Kernodle

Afternoon speakers include George S. Conomikes, president of Conomikes Associates, Greenwich, Conn, speaking on time management. Charles E. Gaines, CLU, independent management consultant, Jackson, Miss, will speak on principles of estate planning.

Dr. Painter

Concluding the afternoon business session will be an examination of financial planning or "How to Keep More of What You Make." Topics to be discussed include estate creation and conservation, conserving savings and taxes by planning, effective use of wills and trusts, and family and retirement planning through trusts. Speakers include Ben G. Marroquin, consultant, Ben G. Marroquin & Associates, Austin; Mark S. Tolle, CLU, Dallas; Eugene J. Tschoepe, CPA, Ernst & Ernst, Austin; Paul E. Martin, Fulbright, Crooker, and Jaworski, Houston; and William R. Gall, senior vice president and trust officer, Republic National Bank, Dallas.

Dr. Lucas

Dr. Smith

Question and answer periods will be conducted throughout the conference discussions. Following adjournment will be a hospitality hour. Evening entertainment will be football at Memorial stadium with The University of Texas vs. Wake Forest University.

Mr. Conomikes

Mr. Gaines

Councils and Committees will be meeting concurrently with the conference.

NEWS

Workmen's Comp changes effective Sept 1

The TMA Committee on Workmen's Compensation and Industrial Health, chaired by Dr. Richard D. Smith of Lubbock, has met with the Industrial Accident Board (IAB) about new rules to implement changes in the Workmen's Compensation law.

The Committee on Workmen's Compensation and Industrial Health urges all physicians and especially those who treat injured workmen covered by Workmen's Compensation to become familiar with changes in the law effective Sept 1, 1973.

Freedom of choice

The most significant change is that for the first time under Texas Workmen's Compensation the injured workman will have a freedom of choice in selecting his physician. This is consistent with the TMA's position and will help the doctors of Texas maintain a better doctor-patient relationship in this area.

Reports

The new law requires doctors to give an initial report as soon as is practical identifying the injured workman and stating the nature and extent of the injury. The law does not specify an exact time for such and this will depend upon what is reasonable for the doctor consistent with his time schedule, patient load, etc. A report is now required to be sent to the State Industrial Accident Board, State Finances Building, PO Box 12757, Capitol Station, Austin, Texas 78711, with copies to the insurance carrier and to the patient or his representative.

Subsequent reports

The law requires that subsequent reports reasonably necessary to keep the status of the patient's condition known must be made. These reports, including the information and time they are to be submitted, are to be consistent with the physician's best judgment to allow for changes of conditions, diagnosis, and other factors. The reports again are required to be sent to the State Industrial Accident Board with copies to the insurance carrier and to the patient or his representative.

The doctor may discharge his responsibility by forwarding the report to the last known address of the patient.

Charges for reports

Under the terms of the statute and new rules of IAB the doctor may now make a reasonable charge for preparing reports required by the statute; such as doctor's time, secretarial help, postage and supplies, and these charges are to be included in the charges for the care of the injured workman and will be paid as a part of any IAB award.

Caveat

The IAB may, if the required reports are not submitted within a reasonable length of time, disallow the bills of the doctor for the treatment of the case and may relieve the patient of the responsibility of paying also.

Forms

The IAB has appointed an ad hoc committee of which Dr. Smith is a member to help prepare a form which will simplify the reporting procedure. The Physicians' Workmen's Compensation Guide is being revised to meet changes in the new law and should be in physicians' hands shortly. Any suggestions in this area should be directed to Dr. Smith at the TMA headquarters.

The TMA has attempted to be of assistance to the Legislature and the IAB in order that the injured workman may be afforded the best opportunity to receive medical care and that the Act be made more workable from the standpoint of all concerned. TMA members will be advised of additional changes as they take effect.

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NEWS

Executive Board assumes active leadership role

Meeting in a day-long session in Austin on Aug 11, the Texas Medical Association's newly-constituted Executive Board voted to assume an active role in providing leadership to the Association and, at the same time, to serve as the Association's long-range planning body.

The meeting was the first of the new board following the decision of the House of Delegates to make a more effective board by re-constituting the membership. The House action was taken after a year's study by an ad hoc committee of the House of Delegates.

The Executive Board, in its new capacity, will (1) determine policy between meetings of the House of Delegates; (2) assure that directives of the House of Delegates are implemented; (3) determine priorities for the Association activities; (4) study structure and operation of the Association's councils and committees; (5) serve in a communications role to keep county medical societies informed of activities and to provide a forum of discussions with them; (6) assume efforts to represent the Association, thus helping the officers and broadening the bases of representation; and (7) serve in a liaison capacity in whatever way is needed.

Responding specifically to requests of several councils of the Texas Medical Association, the Board initiated its new duties to actively carry out its constitutional roles by recommending: (1) That the Texas Medical Association purchase a public service television series entitled, "Ask the Doctor." The series features a guest physician, who responds to simulated questions on a timely medical subject of interest to the public. The Board of Trustees subsequently voted to approve $3000 for purchase of a set for distribution to television stations. (2) That the Texas Medical Association's Committee on Continuing Education thoroughly explore the possibility of a Texas hospital television network; investigate activities in this area already being undertaken by medical schools; and provide estimated costs for such a program. (3) That the Association terminate as soon as feasible its business relationship with Prudential Insurance Company of America. The Board, in a unanimous decision, called upon the Council on Medical Service and Insurance and the Committee on Association Insurance Programs to begin securing bids immediately for the Association's group insurance programs.

The next scheduled meetings of the Executive Board are Sunday, Oct 7, 1973, and Sunday, Jan 20, 1974.

Members of the Executive Board include the TMA officers, Drs. Charles B. Dryden, president; Ed W. Schmidt, president-elect; Braswell Locker, past-president; Paul R. Meyer, vice-president; Byron P. York, Sr., secretary; Charles P. Hardwicke, treasurer; Jack B. Lee, speaker of the House; and Travis Smith, vice speaker of the House.

Also included are the Board of Trustees, Drs. John M. Smith, Jr., N. L. Barker, Joe T. Nelson, Sam N. Key, Jr., Charles W. Yates, Don G. Harrel, and R. Harvey Bell. Others serving on the Executive Board are the chairman and vice chairman of the Board of Councilors, Drs. Haden E. McKay and Dick K. Cason respectively; and chairman and vice chairman of the AMA delegates, Joe T. Nelson (mentioned previously) and Charles Max Cole respectively.

Dr. Joseph T. Ainsworth, chairman of the Council on Medical Legislation, also serves on the Board. Others are Drs. Milton V. Davis, Carlos D. Godinez, and Joseph T. Painter, members-at-large.

'Space University' to transmit educational TV programs

A "space university" of health education, with televised programs originating in San Antonio, relayed from Austin to a satellite, and then beamed to hundreds of hospitals in mid-United States will begin operations in early 1976.

The project, called APACHE (Astral Program for the Advancement of Continuing Health Education), will be conducted by The University of Texas Health Science Center and School of Nursing at San Antonio. It will use the technical resources of the Communication Center of The University of Texas at Austin with the cooperation and support of all the other UT components.

APACHE will be part of an educational communication experiments package to be made available by NASA through its planned Communications Technology Satellite. The satellite will be shared on an equal basis by the US and Canada.

Programs totaling 300 hours for the first year will be produced by the San Antonio health science center with aid from the other UT units for four health professional groups: physicians, dentists, nurses, and paraprofessionals such as pharmacists, dietitians, social workers and various types of technicians.

The project will make continuing health education available to thousands of professionals, many of whom live and work in areas remote from educational centers.

APACHE was conceived and will be implemented by Dr. Paul Cutler, professor of medicine and associate dean for clinical affairs at The University of Texas Medical School at San Antonio, and by Dr. John Fryman, coordinator of closed-circuit television under the School of Communication at The University of Texas at Austin. Dr. Cutler will be responsible for programming content while Dr. Fryman will coordinate the technical equipment and signal transmission sector.

The San Antonio health science center is the only institution awarded time on the satellite for programming in all forms of health education.

AMA accepting half-year dues

The American Medical Association is accepting half-year dues payments for the remaining months of 1973.

All new or reinstated members reported after Aug 15 will be accepted by the AMA for a half-period ending Dec 31, 1973, at the rate of $55 for regular voting members, $10 for hospital interns and residents, and $5 for medical students. Beginning Jan 1, 1974, the full year's dues will again apply.

Construction has begun on this teaching and research complex for The University of Texas Medical School at Houston, newest medical college in the UT System. Total budget for the 520,000 square-foot building is $27.5 million. The nine-story facility, which will adjoin the School's present year-old headquarters, is the second of three components in an extensive building program to be completed in the next few years at the Houston medical school. Completion of this portion is scheduled for within three years.

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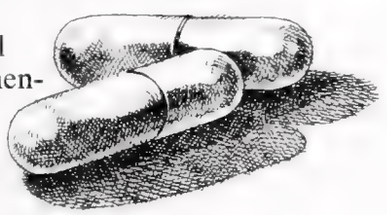

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Adverse Reactions: No side effects or manifestations not seen with either compound alone have been reported with Librax. When chlordiazepoxide hydrochloride is used alone, drowsiness, ataxia and confusion may occur, especially in the elderly and debilitated. These are reversible in most instances by proper dosage adjustment, but are also occasionally observed at the lower dosage ranges. In a few instances syncope has been reported. Also encountered are isolated instances of skin eruptions, edema, minor menstrual irregularities, nausea and constipation, extrapyramidal symptoms, increased and decreased libido—all infrequent and generally controlled with dosage reduction; changes in EEG patterns (low-voltage fast activity) may appear during and after treatment; blood dyscrasias (including agranulocytosis), jaundice and hepatic dysfunction have been reported occasionally with chlordiazepoxide hydrochloride, making periodic blood counts and liver function tests advisable during protracted therapy. Adverse effects reported with Librax are typical of anticholinergic agents, *i.e.*, dryness of mouth, blurring of vision, urinary hesitancy and constipation. Constipation has occurred most often when Librax therapy is combined with other spasmolytics and/or low residue diets.

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NEWS

Texas hospitals participating in televised educational series

The Network for Continuing Medical Education (NCME), an educational television service for some 100,000 physicians at over 650 hospitals and medical centers across the country, regularly distributes medical education programs to 24 Texas hospitals and educational institutions.

Every two weeks (monthly during the summer), hospitals in the Network receive one-hour videotapes containing new programs on three or more medical subjects. These programs, predominantly clinical in nature, are approved for accreditation by the AMA and the American Academy of Family Physicians.

Supported by Roche Laboratories, NCME provides programs without charge in most two-inch, one-inch and half-inch reel-to-reel videotape formats. Videocassettes, which may be kept, are optional at a modest fee.

As a supplement to its regular service, the NCME Master Library makes some 600 programs available on a rental or purchase basis.

The following are upcoming playing dates and programs to be distributed by NCME. Sept 24-Oct 7: "Managing the Hyperactive Child," with Dr. Gerald Erenberg, pediatric neurologist, Montefiore Medical Center and Morrisania Hospital, Bronx, NY; " US Acupuncture: Status Report, 1973," with physicians and scientists from Boston, Cincinnati, Los Angeles and Canoga Park, Calif, New York City, St. Louis and Washington, DC; "Antibiotic Misadventure: The Case of Overkill," with Dr. Harold C. Neu, chief of infectious diseases, Columbia University College of Physicians and Surgeons, New York City. Oct 8-Oct 21: "How to Overdiagnose Pulmonary Embolism," with Dr. Edward H. Morgan, head respiratory disease section, The Mason Clinic, Seattle; "What You and Your Patient Should Know About Coronary Arteriography," with Dr. F. Mason Sones, Jr., director of cardiovascular medicine and cardiac laboratory, and Dr. Donald B. Effler, director, department of cardiovascular and thoracic surgery, both of The Cleveland Clinic; "Antibiotic Misadventure: The Case of Superinfection, Par Excellence," with Dr. Harold C. Neu, chief of infectious diseases, Columbia University of Physicians and Surgeons, New York City.

More information on the programs may be obtained from The Network for Continuing Medical Education, 15 Columbus Circle, New York, NY 10023.

UT Regents approve System budgets

The University of Texas System Board of Regents has approved budgets totaling $361,028,888 for the 1973-74 fiscal year including more than $172 million to go to Texas medical, dental, and nursing schools and their hospital and research components. The total for all appropriations represents a 14% increase over last year's total.

The UT Galveston Medical Branch and the associated Sealy and Smith Foundation Hospitals were granted a total of $57,604,876 with the Sealy and Smith Foundation Hospitals receiving $6,280,749 of that amount.

The educational and general budget for the Medical Branch, $42,939,047, represents an increase of 17.1%.

The total budget for the Houston Health Science Center is $25,606,550. The large UT Center at Houston shows educational and general budgets for its six units in the following amounts: $3,939,980 for the Medical School; $5,159,525 for the Dental Branch; $773,764 for the Graduate School of Biomedical Sciences; $74,022 for the School of Allied Health Sciences; $1,688,815 for the School of Public Health; and $201,404 for the Speech and Hearing Institute. The

budget for the growing Medical School at Houston incorporates funds for 30 new faculty positions.
The UT System Cancer Center total budget of $40,836,052 shows the M.D. Anderson Hospital and Tumor Institute has earmarked $13,044,582 for patient care activities. The Tumor Institute will spend $8,094,912 for its medical staff, research, education, and travel.

The Dallas Health Science Center will have budgeted expenditures totaling $24,601,357. The operating budget for Southwestern Medical School, $6,609,417, is up 18.5%. Contributing to the larger budget is the fact that the School is now at mid-point in its goal of doubling the enrollment of its freshman class to 200 by 1975. Attendant to that goal are increased needs for teaching and support services.

Operating budgets, including instructional salaries and departmental operating expenses, for other Dallas Health Science Center institutions are $341,006 for the Graduate School of Biomedical Sciences; and $530,795 for the Allied Health Sciences School.

The UT budgets, approved in late July, include a total of $20,002,128 for the UT Health Science Center at San Antonio. The educational and general budgets for each of the schools in the Health Science Center are: $6,339,574 for the Medical School; $1,747,920 for the Dental School; $336,023 for the Graduate School of Biomedical Sciences; and $100,000 for the Allied Health Sciences School for its first year. Each figure represents a substantial increase over the previous year's appropriations. While the new budget contains $2,000,000 for a clinical science building at the Medical School, even without that one-time item the educational and general budget has an increase of $2,174,253 for the San Antonio Center.

UT's system-wide nursing schools have been allotted $3,914,137 for educational and general funding. This represents an over-all increase of 27%. The largest increases came at Fort Worth, El Paso, Houston, and San Antonio where new programs are being developed.

Dr. Rodarte says new law won't help foreign graduates

The president of the Texas State Board of Medical Examiners says that a state law intended to make it easier for Texas students who received medical training in foreign countries to intern in the US will actually complicate matters for students.
The new law, passed as HB 576 by the 63rd Texas Legislature, basically states that no Texas hospital may require Texas residents who have graduated from a foreign medical school to be certified by the Educational Council for Foreign Medical Graduates (ECFMG), or to have completed a prior period of internship or graduate clinical training as a condition for beginning an internship or residency in that hospital.
The bill will probably not affect present practices for two reasons, says Dr. J. G. Rodarte of Temple, president of the Texas State Board of Medical Examiners. First, he says, the Joint Commission on Accreditation of Hospitals (JCAH) will not accredit a hospital if foreign interns, residents, and fellows do not have ECFMG certificates. A hospital that is not accredited cannot have approved intern or residency programs.
In addition, Dr. Rodarte says, "This bill was passed for the benefit of American students in foreign medical schools, particularly the ones in the autonomous University of Guadalajara Medical School (Facultad de Medicina de la Universidad Autonoma de Guadalajara). Over one-third of the total registration in that school are Americans (how many from Texas I

NEWS

do not know)."
Dr. Rodarte explained that students in the Guadalajara school are required to complete four or five years of didactic work, followed by one year of "internado pregrado" (equivalent to clerkship), and then one year of "servicio social" (practice in a rural community where there are no doctors or medical facilities.) After a comprehensive examination, the student is given the Titulo, or medical diploma.
The trouble starts, says Dr. Rodarte, when a student has completed the first four or five years of school. After this period, he is given a "Carta de Pasante" (a certificate that looks like a diploma which states that he has completed the medical course).
"These students are trying to come into the United States," he explained, "for an internship or residency or to take the Texas State Board of Medical Examiners examination. The Educational Council for Foreign Medical Graduates cannot issue them a certificate because they have not fulfilled all the requirements to practice in the country where they went to school. In other words, they do not have the Titulo."
In order for a student from a foreign school to take the Texas State Board of Medical Examiners examination, he must have a Texas Basic Science Certificate, and he must be either certified by the ECFMG or by his specialty board. Since students who attended Mexican schools are trying to take the examinations in the US before they have the Titulo, they cannot be certified by the ECFMG, and therefore, cannot take the Texas boards.
Although the Texas Medical Practice Act does not require a doctor to take the board examinations before taking an internship or residency, most American graduates do.
Dr. Rodarte says the newly-passed Texas law will have no effect on licensing of physicians by the Texas State Board of Medical Examiners, nor on the Medical Practice Act of Texas.

More health-related bills

Two bills relating to the medical profession and enacted by the 63rd regular session of the Texas Legislature, and not previously reported in *Texas Medicine,* may be of interest to Texas physicians.
House Bill 331 concerns the licensing of child-caring and child-placing institutions in the state. The bill renders it a misdemeanor offense to operate such an institution without an appropriate license from the Department of Public Welfare.
House Bill 1387 relates to the safety standards for the operation of school buses. This legislation will permit the State Board of Education to approve rules and regulations for the certification of school bus drivers including requirements for physical examinations.
A wrap-up of medical legislation appeared in the July issue of *Texas Medicine.*

House of Delegates to meet Nov 3-4

The TMA House of Delegates fall meeting is scheduled for Saturday and Sunday, Nov 3-4 in Austin.
The first session of the House will be called to order briefly on Saturday at 8 am in the ballroom of the Ramada-Gondolier Motor Inn for any announcements and remarks of the president and the speakers.
Seven reference committees will be appointed and will go into session at 9:30 am on Saturday. Reports are to be prepared that afternoon. A member of the executive staff will be available to each reference committee chairman and secretary to assist in writing the report.
The House will reconvene at 9 am Sunday in the Grand Ballroom of the Sheraton-Crest Motor Inn to hear reference committee reports. It is anticipated that the session will be completed by noon.

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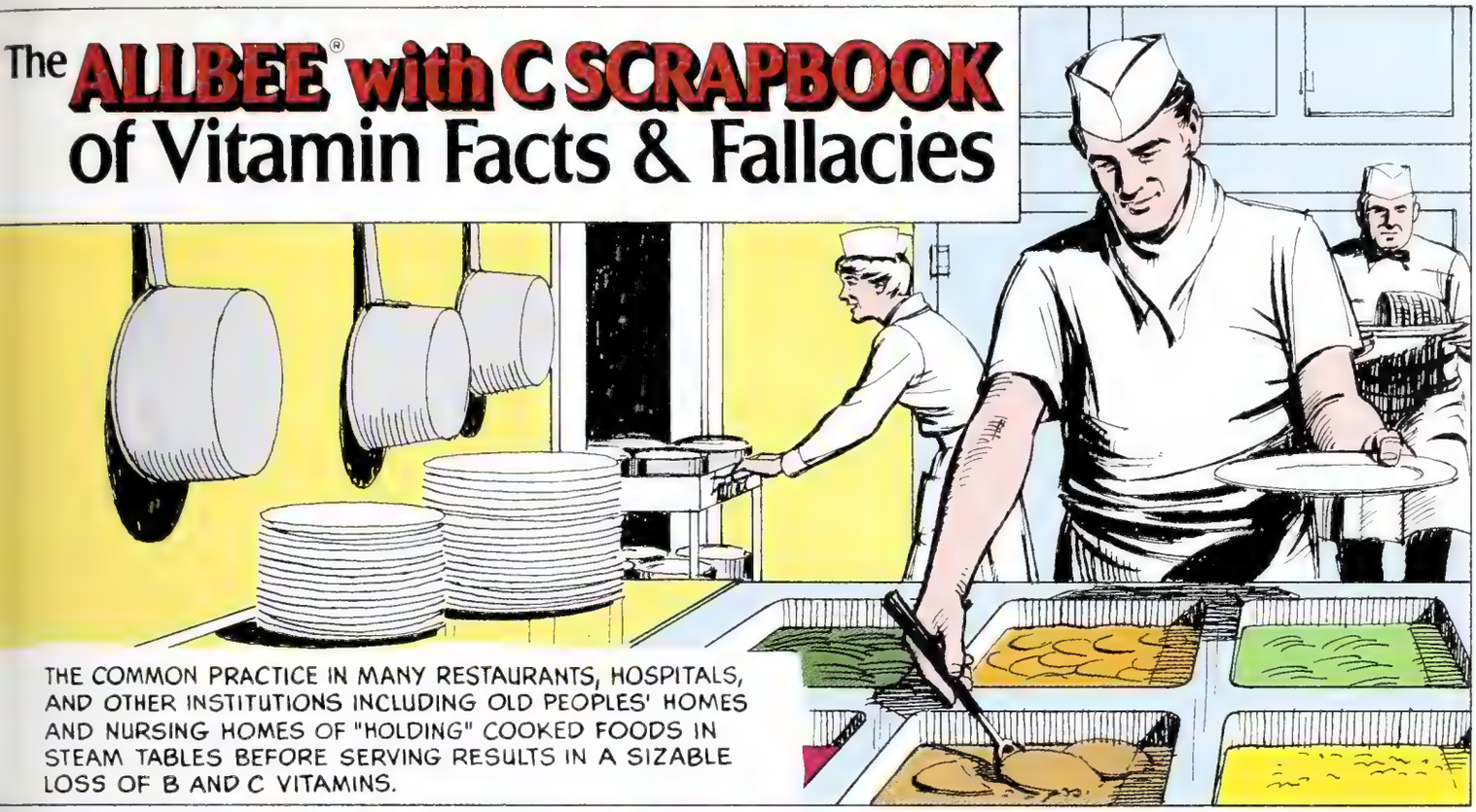

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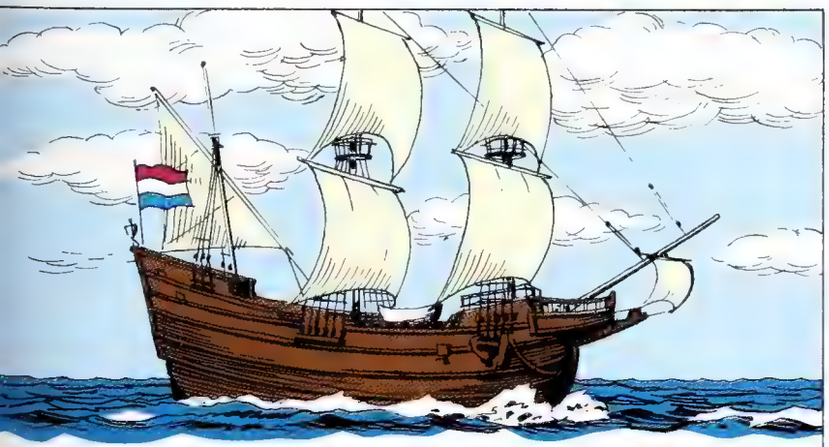

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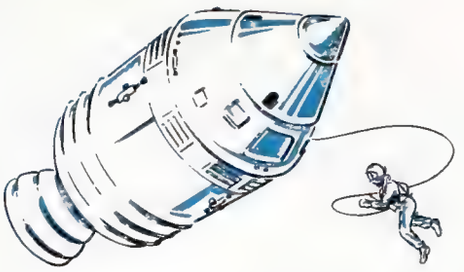

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All Mudranes are bronchodilator-mucolytic in action, and are indicated for symptomatic relief of bronchial asthma, emphysema, bronchiectasis and chronic bronchitis. **MUDRANE tablets** contain 195 mg. potassium iodide; 130 mg. aminophylline; 21 mg. phenobarbital (Warning: may be habit-forming); 16 mg. ephedrine HCl. **Dosage** is one tablet with full glass of water, 3 or 4 times a day. **Precautions** are those for aminophylline-phenobarbital-ephedrine combinations. **Iodide side-effects:** May cause nausea. Very long use may cause goiter. Discontinue if symptoms of iodism develop. **Iodide contraindications:** Tuberculosis; pregnancy (to protect the fetus against possible depression of thyroid activity). **MUDRANE-2 tablets** contain 195 mg. potassium iodide; 130 mg. aminophylline. **Dosage** is one tablet with full glass of water, 3 or 4 times a day. **Precautions** are those for aminophylline. **Iodide side-effects and contraindications are listed above. MUDRANE GG tablets** contain 100 mg. glyceryl guaiacolate; 130 mg. aminophylline; 21 mg. phenobarbital (Warning: may be habit-forming); 16 mg. ephedrine HCl. **Dosage** is one tablet with full glass of water, 3 or 4 times a day. **Precautions** are those for aminophylline-phenobarbital-ephedrine combinations. **MUDRANE GG-2 tablets** contain 100 mg. glyceryl guaiacolate; 130 mg. aminophylline. **Dosage** is one tablet with full glass of water, 3 or 4 times a day. **Precautions:** Those for aminophylline. **MUDRANE GG Elixir.** Each teaspoonful (5 cc) contains 26 mg. glyceryl guaiacolate; 20 mg. theophylline; 5.4 mg. phenobarbital (Warning: may be habit-forming); 4 mg. ephedrine HCl. **Dosage:** Children, 1 cc for each 10 lbs. of body weight; one teaspoonful (5 cc) for a 50 lb. child. Dose may be repeated 3 or 4 times a day. Adult, one tablespoonful, 4 times daily. All doses should be followed with ½ to full glass of water. **Precautions:** See those listed above for Mudrane GG tablets.

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US House considering HMO legislation

The fate of federal health maintenance organization legislation rests with the US House of Representatives since the Senate drastically slashed funds for Sen Edward Kennedy's HMO bill.

The Kennedy bill, as passed by the Senate in May, provides for spending $805 million over three years to encourage development of prepaid group pactices or contract practice-type organizations. Last year, the Senate overwhelmingly voted a $5.1 billion HMO program. The bill is now in House-Senate conference.

Meanwhile, Democrat William R. Roy (Kansas) has introduced HR 7974, The Health Maintenance Organization Act of 1973. HR 7974 is an amended version of Roy's HR 51. The amended bill would create a new title in the Public Health Service Act which would authorize assistance for the development and operation of health maintenance organizations.

One of the major changes embodied in HR 7974, as opposed to HR 51, is a provision which would allow the preemption of state laws prohibiting the practice of corporate medicine. This would include the Texas law, which requires that physicians constitute the entire governing body of a health care institution. A proposal to alter this provision was made by Rep Mickey Leland of Houston to the Texas Legislature this session; it did not succeed.

In a letter to Texas Rep James M. Collins, who is a member of the Interstate and Foreign Commerce Committee to which the bill has been referred, TMA President Charles B. Dryden stated the Association's view on HR 7974.

Dr. Dryden complimented the House for "approaching HMOs as an experiment to be dealt with analytically and objectively in a limited way until all aspects of this largely untried approach are evaluated."

While endorsing the bill's approach, Dr. Dryden does voice objections to some of the specific provisions, especially the section which deals with preemption of state laws regarding the corporate practice of medicine.

In addition, the TMA president told Collins that "it is not fair nor conducive to an objective result to provide Federal capitation subsidies for one facet of health care delivery to the exclusion of others."

Also contained in HR 7974 is a provision which would require employers to offer an HMO option to employee health insurance programs if an HMO exists in the community. Dr. Dryden told Collins that Texas physicians feel that employers should be free, along with their employees, to evaluate delivery options and to reject those which they conclude are poor, inefficient, of low quality or excessive cost and so on.

Other Texans on the Interstate and Foreign Commerce Committee are Democrat Reps J. J. Pickle and Bob Eckhardt.

Board of Medical Examiners moves offices to Austin

The Texas State Board of Medical Examiners moved into new offices in Austin Sept 1. The Board's new address is: 900 Southwest Towers, Austin, Texas 78701. Also at that time, Dr. A. Bryan Spires, Jr., of Austin assumed the duties of Secretary of the Board.

"I want you to boycott beer."

NEWS

Emergency system to begin Dec 1

The San Antonio/Bexar County Emergency Medical Services System is scheduled to begin Dec 1. The Emergency Medical Technicians (EMT) are volunteers from the San Antonio Fire Department who have attained the rank of engineer.

Although experienced in emergencies, first aid and extrication, the EMTs will undergo an intensive two-month medical program beginning Oct 1. The program consists of both classroom training and hospital experience.

Sixteen fully-equipped emergency vehicles will be in use at the outset of the System. The System was developed through the cooperative efforts of the officials of Bexar County, the City of San Antonio and the county medical society. The Emergency Medical Services Committee of the medical society, appointed in May 1972, has grown into the San Antonio/Bexar County Emergency Medical Services Council with over 50 members and six independent functioning task forces.

Senate Committee liberalizes Keogh Plan

A substantial liberalization of the Keogh plan for self-employed people, including physicians, has been approved by the Senate Finance Committee. The Committee has also imposed restrictions on retirement savings by professional corporations.

Committee Chairman Russell Long (D-La) said the reason for the restrictions was the fact that in some cases professional men who had incorporated and who had high incomes could set aside on a deferred taxation basis as much as $32,500 yearly while the self-employed were limited to a maximum of $2,500.

Under the new Keogh plan limits set by the Committee, which are expected to win Senate approval, self-employed persons are allowed a deductible contribution to a retirement plan of up to 15% of earned income with a maximum of $7,500 annually. There would be a $100,000 limit on earned income that can be taken into account.

Present law limits retirement set aside subject to tax deduction to 10% of earned income but not more than $2,500.

According to the Committee, the $100,000 limit means that "higher income self-employed, desiring to achieve the $7,500 maximum contribution for themselves, will find it necessary to contribute on behalf of their employees at a 7.5% or greater rate."

The TMA Members Retirement Plan and Trust qualifies under the Keogh Act and is approved by the IRS so that certain tax advantages accrue to contributions.

Any TMA member who is self-employed in the practice of medicine and a Texas resident is eligible to join the program. A nonmember partner may also join, provided that one of his other partners who is a TMA member joins.

The TMA Members Retirement Plan and Trust is flexible, offering the physician several methods of investment such as balanced and growth mutual funds, fixed retirement investments, US government retirement bonds, common trust fund, annuity program, and savings account.

"Could you bring me a bedpan during the next commercial?"

New influenza vaccine available for '73-'74

A new influenza type A vaccine is available for 1973-74, reports the Texas State Department of Health. Each adult dose of the 1973-74 influenza vaccine contains 1000 chick cell agglutinating (CCA) units of antigen in the following proportion: 700 CCA units of type A strain comparable to the prototype, A/England/42/72-(H3N2) and 300 CCA units of a type B strain, B/Massachusetts/1/71. Since late 1972, new strains of type B influenzavirus have been identified as the cause of characteristic influenza illness. They appeared first in Hong Kong in December 1972 and have since been recovered from influenza cases in Australia and England. Since these type B antigens differ considerably from prior strains, little natural immunity to them can be expected to exist in the general population. Anticipating the possibility that these type B influenzaviruses will become widely prevalent in the United States, the Bureau of Biologics prepared guidelines for production of a monovalent type B influenza vaccine. This monovalent vaccine is expected to be commercially available prior to the 1973-74 influenza season. It should be used as a supplemental vaccine for optimal protection of persons at high-risk who are already recommended to receive bivalent vaccine.

UTMB researchers get funds to study cancer and cell division

The National Cancer Institute has awarded two grants to researchers at The University of Texas Medical Branch at Galveston to study the mitotic process in normal and cancerous cells and the response of dividing cells to cancer chemotherapy.

A five-year, $270,000 grant has been awarded Dr. B. R. Brinkley, director of the division of cell biology of the Department of Human Biological Chemistry and Genetics, and Dr. Gerald Fuller, assistant professor in the department of human genetics. Drs. Brinkley and Fuller will conduct studies to explain the structural and biochemical basis for mitosis in normal and cancerous cells.

Dr. Sam Barranco, associate professor in the division of cell biology, will use a three-year, $85,000 grant for research on the response of non-dividing cells to cancer chemotherapy.

Public service spots sponsored by TMA, TAB

A series of radio and television public service announcements is being produced for distribution to stations throughout Texas. Production of the series is under the direction of TMA's Council on Public Service and Communication in cooperation with the Texas Association of Broadcasters. The first of the series, on immunizations, began airing during August, followed by a venereal disease campaign. Subjects of other radio and TV spots to be produced later in the year will include doctor-patient communications and proper health practices. Some 50 TV stations and 200 radio stations will participate in the TMA-TAB program.

Helistop underway at Texas Medical Center

Construction is underway on the John S. Dunn Helistop at Hermann Hospital in Houston. The helicopter landing facility, named in honor of the Hermann Hospital Estate trustee who supported the helistop through a $136,000 gift, is slated for completion this fall. The first helistop in the Texas Medical Center will accommodate city-operated, military and private helicopters providing emergency aerial ambulance service. Private helicopters associated with Houston's oil industry and its other industries will be encouraged to use the helistop to transport their accident victims. It will serve all the hospitals in the Medical Center.

NEWS

Joint PSRO statement presented to DHEW

Representatives of TMA and the Texas Osteopathic Medical Association presented a joint statement of principles regarding the implementation for PSRO in Texas to the regional office of the US Department of Health, Education and Welfare at a hearing Aug 24.

The statement formally requested that a single, statewide Professional Standards Review Organization conforming to the boundaries of the state be designated. This action, the two medical associations feel, would permit a functioning organization to assure uniform implementation and support of institutional review processes in the state while maintaining the actual professional standards review at the local level, and would fulfill the qualifications for physician organizations as specified by law.

A state organization has been developed, the Texas Institute of Medical Assessment (TIMA), which meets the requirements for a physician-sponsored group, and is working toward the rapid implementation of a statewide system of medical care review, evaluation, and education. It is the intent of TIMA to apply for designation as the provisional PSRO for Texas.

A description of the role of the statewide PSRO was outlined in the presentation of the joint statement. PSRO functions were identified as follows: (1) to coordinate the activities of, and disseminate information and data; (2) to assist in the development of uniform data-gathering procedure and operating procedures; (3) to assist in the establishment of a common data processing operation to provide assurances of efficient operation and objective evaluation of comparative formulas of the several areas within the review structure; (4) to assist in evaluating performance of local review units.

In addition, other centralized functions can be performed without impinging upon the right of the local review group to determine the medical necessity, appropriateness, and quality of medical care.

Advantages of a single state organization would not only assure the uniform development and implementation of the standards of professional review throughout every region of the state, but it would also achieve the highest level of economy, efficiency, coordination, and performance of review activity. The joint statement delineated each of these advantages as related to TIMA.

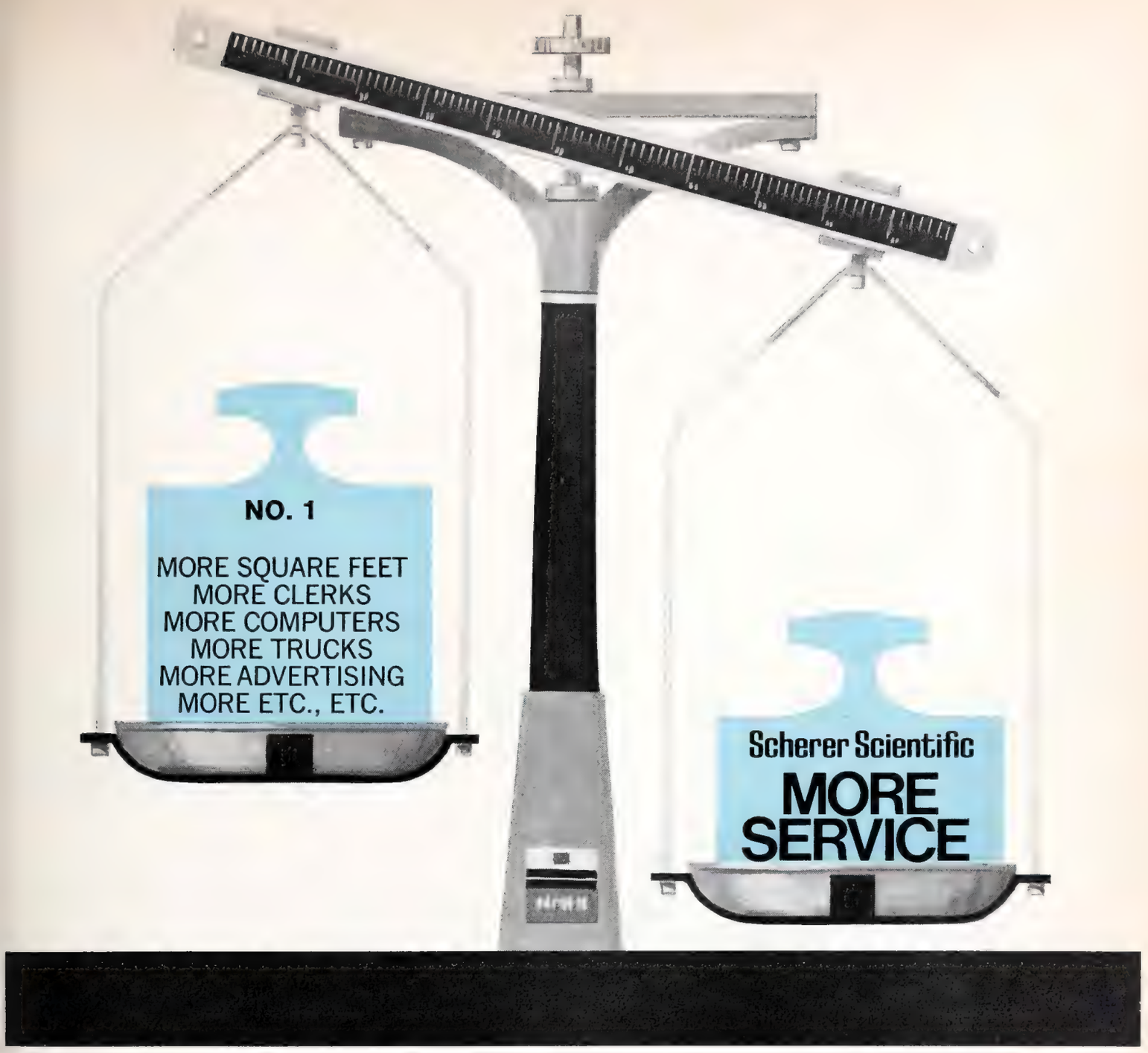
It is anticipated that PSRO areas will be announced early in December.

UNIT VALUES FOR TMA MEMBERS RETIREMENT PLAN AND TRUST

(As a service to participants in the TMA Members Retirement Plan and to physicians interested in enrolling in the program, comparative values for investments are listed. Figures shown are the latest available at press deadline and are for comparison purposes only. Most daily newspapers list up-to-the-minute values on mutual funds.)

Investment media	Original price 9-30-68	Net asset value per share 7-31-73	Net asset value per share 7-31-73[1]
Mercantile National Bank Stock Fund	$10.25	$11.25	$11.25
Loomis-Sayles Capital Development Fund	14.20	13.27	15.46
T. Rowe Price Growth Stock Fund	25.93	13.90	16.14[2]
Loomis-Sayles Mutual Fund	16.82	14.77	19.48
Stein Roe & Farnham Balanced Fund	23.34	21.28	28.52
Mercantile Bank Fixed Income Fund	10.00	11.32	11.32

[1]Adjusted to include dividends and distributions since 9-30-68.
[2]Stock split two for one, May, 1973.



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BRIEF SUMMARY
(For full prescribing information, see package circular.)
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Indications: Based on a review of PREMARIN Tablets by the National Academy of Sciences-National Research Council and/or other information, FDA has classified the indications for use as follows:
Effective: As replacement therapy for naturally occurring or surgically induced estrogen deficiency states associated with: the climacteric, including the menopausal syndrome and postmenopause; senile vaginitis and kraurosis vulvae, with or without pruritus.
"Probably" effective: For estrogen deficiency-induced osteoporosis, and only when used in conjunction with other important therapeutic measures such as diet, calcium, physiotherapy, and good general health-promoting measures. Final classification of this indication requires further investigation.

Contraindications: Short acting estrogens are contraindicated in patients with (1) markedly impaired liver function; (2) known or suspected carcinoma of the breast, except those cases of progressing disease not amenable to surgery or irradiation occurring in women who are at least 5 years postmenopausal; (3) known or suspected estrogen-dependent neoplasia, such as carcinoma of the endometrium; (4) thromboembolic disorders, thrombophlebitis, cerebral embolism, or in patients with a past history of these conditions; (5) undiagnosed abnormal genital bleeding.
Warnings: Estrogen therapy should not be given to women with recurrent chronic mastitis or abnormal mammograms except, if in the opinion of the physician, it is warranted despite the possibility of aggravation of the mastitis or stimulation of undiagnosed estrogen-dependent neoplasia.

The physician should be alert to the earliest manifestations of thrombotic disorders (thrombophlebitis, retinal thrombosis, cerebral embolism and pulmonary embolism). If these occur or are suspected, estrogen therapy should be discontinued immediately.

Estrogens may be excreted in the mother's milk and an estrogenic effect upon the infant has been described. The long range effect on the nursing infant cannot be determined at this time.

Hypercalcemia may occur in as many as 15 percent of breast cancer patients with metastases, and this usually indicates progression of bone metastases. This occurrence depends neither on dose nor on immobilization. In the presence of progression of the cancer or hypercalcemia, estrogen administration should be stopped.

A statistically significant association has been reported between maternal ingestion of diethylstilbestrol during pregnancy and the occurrence of vaginal carcinoma in the offspring. This occurred with the use of diethylstilbestrol for the treatment of threatened abortion or high risk pregnancies. Whether or not such an association is applicable to all estrogens is not known at this time. In view of this finding, however, the use of any estrogen in pregnancy is not recommended.

Failure to control abnormal uterine bleeding or unexpected recurrence is an indication for curettage.
Precautions: As with all short acting estrogens, the following precautions should be observed:

A complete pretreatment physical examination should be performed with special reference to pelvic and breast examinations.

To avoid prolonged stimulation of the endometrium and breasts in climacteric or hypogonadal women, estrogens should be administered cyclically (3 week regimen with 1 week rest period—withdrawal bleeding may occur during rest period).

Because of individual variation in endogenous estrogen production, relative overdosage may occur which could cause undesirable effects such as abnormal or excessive uterine bleeding, mastodynia and edema.

Because of salt and water retention associated with estrogenic anabolic activity, estrogens should be used with caution in patients with epilepsy, migraine, asthma, cardiac, or renal disease.

If unexplained or excessive vaginal bleeding should occur, reexamination should be made for organic pathology.

Pre-existing uterine fibromyomata may increase in size while using estrogens; therefore, patients should be examined at regular intervals while receiving estrogenic therapy.

The pathologist should be advised of estrogen therapy when relevant specimens are submitted.

Because of their effects on epiphyseal closure, estrogens should be used judiciously in young patients in whom bone growth is incomplete.

Prolonged high dosages of estrogens will inhibit anterior pituitary functions. This should be borne in mind when treating patients in whom fertility is desired.

The age of the patient constitutes no absolute limiting factor, although treatment with estrogens may mask the onset of the climacteric.

Certain liver and endocrine function tests may be affected by exogenous estrogen administration. If test results are abnormal in a patient taking estrogen, they should be repeated after estrogen has been withdrawn for one cycle.
Adverse Reactions: The following adverse reactions have been reported associated with short acting estrogen administration:
nausea, vomiting, anorexia
gastrointestinal symptoms such as abdominal cramps and bloating
breakthrough bleeding, spotting, unusually heavy withdrawal bleeding (See DOSAGE AND ADMINISTRATION)
breast tenderness and enlargement
reactivation of endometriosis
possible diminution of lactation when given immediately postpartum
loss of libido and gynecomastia in males
edema
aggravation of migraine headaches
change in body weight (increase, decrease)
headache
allergic rash
hepatic cutaneous porphyria becoming manifest
Dosage and Administration: PREMARIN should be administered cyclically (3 weeks of daily estrogen and 1 week off) for all indications except selected cases of carcinoma and prevention of postpartum breast engorgement.

Menopausal Syndrome—1.25 mg. daily, cyclically. Adjust dosage upward or downward according to severity of symptoms and response of the patient. For maintenance, adjust dosage to lowest level that will provide effective control.

If the patient has not menstruated within the last two months or more, cyclic administration is started arbitrarily. If the patient is menstruating, cyclic administration is started on day 5 of bleeding. If breakthrough bleeding (bleeding or spotting during estrogen therapy) occurs, increase estrogen dosage as needed to stop bleeding. In the following cycle, employ the dosage level used to stop breakthrough bleeding in the previous cycle. In subsequent cycles, the estrogen dosage is gradually reduced to the lowest level which will maintain the patient symptom-free.

Postmenopause—as a protective measure against estrogen deficiency-induced degenerative changes (*e.g.* osteoporosis, atrophic vaginitis, kraurosis vulvae)—0.3 mg. to 1.25 mg. daily and cyclically. Adjust dosage to lowest effective level.

Osteoporosis (to retard progression)—usual dosage 1.25 mg. daily and cyclically.

Senile Vaginitis, Kraurosis Vulvae with or without Pruritus—0.3 mg. to 1.25 mg. or more daily, depending upon the tissue response of the individual patient. Administer cyclically.
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No. 866—Each *yellow* tablet contains 1.25 mg., in bottles of 100 and 1,000. Also in unit dose package of 100.

No. 867—Each *red* tablet contains 0.625 mg., in bottles of 100 and 1,000.

No. 868—Each *green* tablet contains 0.3 mg., in bottles of 100 and 1,000. **7352**

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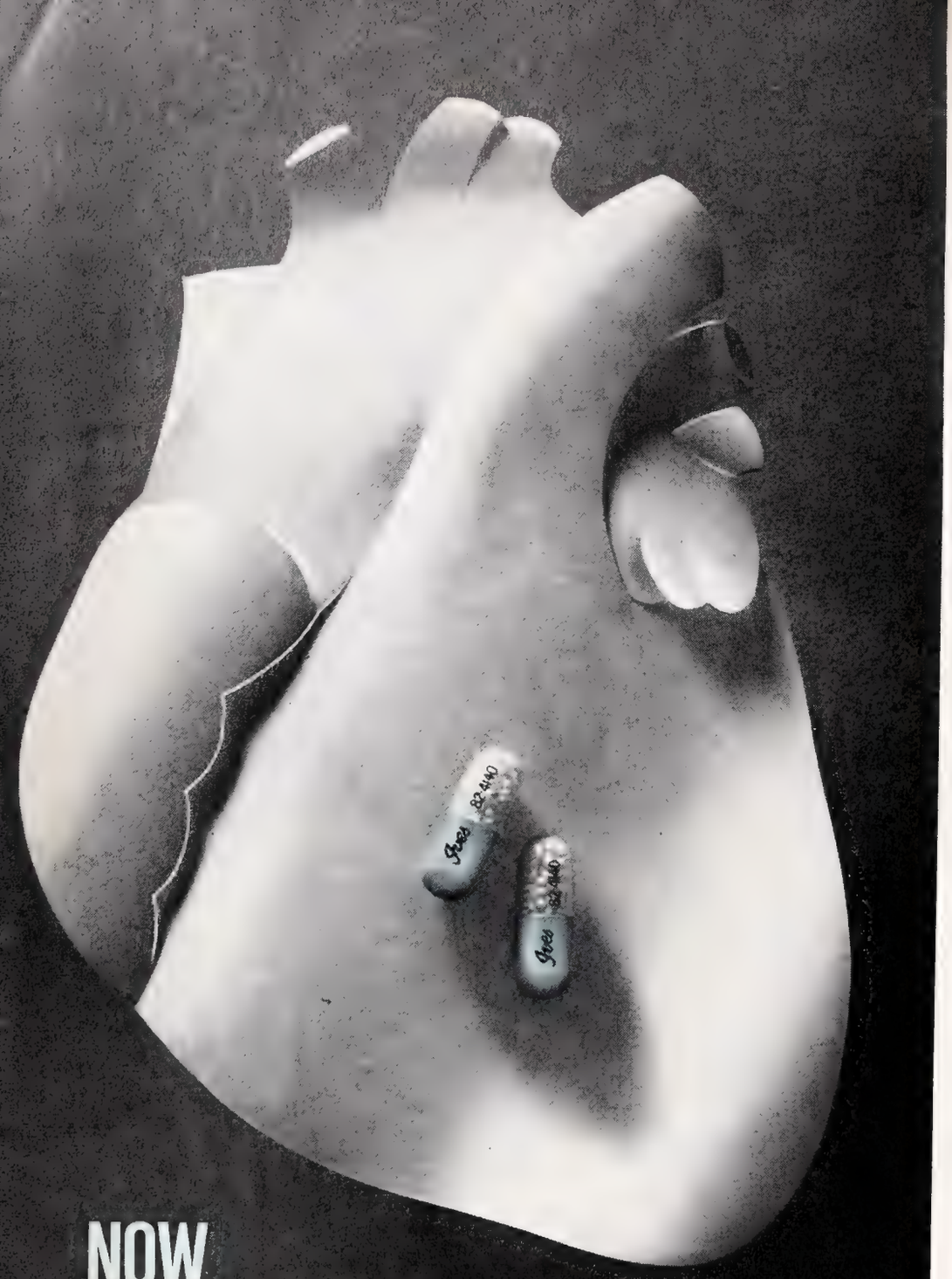

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***Indications:** Based on a review of this drug by the National Academy of Sciences—National Research Council and/or other information, FDA has classified the indication as follows:

"Possibly" effective: When taken by the oral route, Isordil (isosorbide dinitrate) is indicated for the relief of angina pectoris (pain of coronary artery disease). It is not intended to abort the acute anginal episode, but is widely regarded as useful in the prophylactic treatment of angina pectoris.

Final classification of the less-than-effective indications requires further investigation.

Contraindication: Idiosyncrasy to this drug.

Warnings: Data supporting the use of nitrites during the early days of the acute phase of myocardial infarction (the period during which clinical and laboratory findings are unstable) are insufficient to establish safety.

Precautions: Tolerance to this drug and cross-tolerance to other nitrites and nitrates may occur. In patients with functional or organic gastrointestinal hypermotility or malabsorption syndrome, it is suggested that either the ISORDIL 5 mg. or 10 mg. Oral tablets or sublingual tablets be the preferred therapy. The reason for this is that a few patients have reported passing partially dissolved ISORDIL TEMBIDS tablets in their stools. This phenomenon is believed to be on the basis of physiological variability and to reflect rapid gastrointestinal transit of the sustained action tablet. TEMBIDS SHOULD NOT BE CHEWED.

Adverse Reactions: Cutaneous vasodilation with flushing. Headache is common and may be severe and persistent. Transient episodes of dizziness and weakness as well as other signs of cerebral ischemia associated with postural hypotension may occasionally develop. This drug can act as a physiological antagonist to norepinephrine, acetylcholine, histamine, and many other agents. An occasional individual exhibits marked sensitivity to the hypotensive effects of nitrite, and severe responses (nausea, vomiting, weakness, restlessness, pallor, perspiration and collapse) can occur even with the usual therapeutic dose. Alcohol may enhance this effect. Drug rash and/or exfoliative dermatitis may occasionally occur.

Consult direction circular before prescribing.

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TEXAS MEDICAL ASSOCIATION

The Texas Medical Association will present its 1973 Conference on Medical Service and Practice Management Saturday, Oct. 6, in the Joe C. Thompson Conference Center, Austin. During the morning session, Dr. John R. Kernodle, Chairman of Board of Trustees, American Medical Association, will speak on issues and challenges for physicians. Also to be presented during the morning will be programs with question and answer sessions on PSRO and utilization review and utilization. The afternoon session will be devoted to a program on practice management for the physician, and will be presented by Conomikes Associates of Greenwich, Conn. See details on pp. 6-7. Contact: C. Lincoln Williston, 1801 N. Lamar Blvd., Austin 78701, Exec. Sec.

AMERICAN MEDICAL ASSOCIATION

The 14th National Conference on Physicians, Schools, and Communities is being held Oct. 4-5 at the LaSalle Hotel in Chicago. The theme of the meeting is "Improving the Quality of Life: The Impact of Schools." Purpose of this conference is to make persons aware of the influence of the schools. It is designed to help persons related to schools recognize the positive and negative influences of today's schools and to examine ways in which positive influences can be reinforced, strengthened, expanded, and enhanced. The conference format will include audience participation, practical demonstrations, role playing, speakers, and discussions. The activities will focus on school health services, health instruction, community relationships, administration, and environment.

Contact: American Medical Association, 535 N. Dearborn St., Chicago 60610.

THE UNIVERSITY OF TEXAS M. D. ANDERSON HOSPITAL AND TUMOR INSTITUTE

The University of Texas M. D. Anderson Hospital and Tumor Institute and The University of Texas Medical Branch at Galveston will sponsor a symposium on the Legacies of Railroad Medicine to American Health Care, particularly in the Southwest. This conference will be held on Oct. 27-28 in the Auditorium of M. D. Anderson in Houston. Tours of the rehabilitation center will be available Oct. 27. A number of physicians, historians, and railroad officials will discuss various facets of railway medicine on Oct. 28. There is no admission fee, and all interested persons are invited to attend.

Contact: Dr. Robert C. Hickey, The University of Texas M. D. Anderson Hospital and Tumor Institute, Texas Medical Center, Houston 77025, Exec. VPres.

COMING MEETINGS

CURRENT MEETINGS IN TEXAS

TEXAS PEDIATRIC SOCIETY will hold its 51st Annual Meeting, combined with meetings of the Texas Chapter, American Academy of Pediatrics, and the Texas Society of Pediatric Surgeons, Sept. 20-22 at Lakeway Inn near Austin. Guest speakers will include Dr. Alvin H. Jacobs, Stanford University School of Medicine, Calif.; Dr. Samuel L. Katz, Duke University Medical Center, Durham, NC; Dr. Lester Martin, University of Cincinnati College of Medicine, Cincinnati; Dr. Carl N. Muchnick, Epidemic Intelligence Service Officer, Center for Disease Control, Atlanta, Ga.; Dr. Henry R. Shinefield, University of California School of Medicine, San Francisco; Dr. Hugo F. Carvajal, University of Texas Medical Branch, Galveston; Dr. Jerry J. Eller, University of Texas Health Science Center at San Antonio; Dr. John R. Montgomery, Baylor College of Medicine, Houston; and Dr. John D. Nelson, University of Texas Southwestern Medical School, Dallas. Registration fee is $25 for nonmembers of the Texas Pediatric Society. Contact: Dr. Pat A. Cato, 3907 Medical Pkwy, Austin 78756.

TEXAS SOCIETY OF CHILD PSYCHIATRY will hold its fall meeting at the Flying L Ranch, Bandera, Sept. 21-23. A seminar will be held on PSRO. Contact: Dr. Allen J. Cahill, 8226 Douglas, Suite 356, Dallas 75225, Sec.-Treas.

TEXAS SURGICAL SOCIETY meeting will be Sept. 30-Oct. 2 at the Holiday Inn Emerald Beach Hotel, Corpus Christi. The meeting is open to members and invited guests. Contact: Dr. Robb H. Rutledge, 901 S. Lake, Fort Worth 76104, Sec.

For other courses and symposiums, see Continuing Education Courses, pp. 45-46.

CURRENT NATIONAL MEETINGS

AMERICAN ACADEMY OF PEDIATRICS will hold its 42nd Annual Meeting Oct. 20-24 in Chicago. Highlights will be discussions on drug abuse, sudden infant death syndrome, human sexuality, and learning disorders. Round table discussions planned for the meeting include dermatology, child development, day care centers, pulmonary disorders, allergy, and screening. The seminars will concentrate on topics as immunology, behavioral problems, growth disorders, renal disease, and adolescence. Contact: Dr. Robert G. Frazier, PO Box 1034, Evanston, Ill. 60204, Exec. Dir.

AMERICAN ASSOCIATION FOR LABORATORY ANIMAL SCIENCE will sponsor its 24th Annual Session Oct. 1-5 at the Americana Hotel, Bal Harbour, Fla. Contact: Joseph J. Garvey, AALAS, 2317 W. Jefferson St., Joliet, Ill. 60435, Exec. Sec.

AMERICAN ASSOCIATION OF MEDICAL ASSISTANTS will present topics on health care legistlation, shock trauma, office planning and design, and computerized medicine at its 17th Annual Convention Oct. 23-27, at the Shoreham Americana Hotel in Washington, DC. Contact: Dene R. Murray, One E. Wacker, No. 1510, Chicago 60601, Exec. Dir.

AMERICAN HUMANE ASSOCIATION announces the Third National Symposium on Protecting the Abused, the Neglected, and the Sexually Exploited Child. It will be held Oct. 23 at the Francis Marion Hotel, Charleston, SC. The symposium will engage in an interdisciplinary exploration of these problems and their dimensions; of the implications for the victim and parents; of the implications for the community in terms of coordination of services; and of the more promising approaches if we are to protect the child in hazard. Contact: Children's Division, The American Humane Association, PO Box 1266, Denver, Colo. 80201.

AMERICAN SOCIETY OF CLINICAL PATHOLOGISTS will hold a joint annual meeting with the College of American Pathologists Oct. 19-26 at the Conrad Hilton Hotel, Chicago. General sessions will include such topics as The information crisis—paper pollution; Laboratory associated hepatitis; The automobile—a way of life or death; Percentage contracts in trouble; Immunology in neoplasia relating to diagnosis therapy and transplantation (basic science research); and innovations in pathology. Contact: Mrs. Judy Graves, Intersociety Committee on Pathology Information, 9650 Rockville Pike, Bethesda, Md. 20014, Press Officer.

AMERICAN SOCIETY OF PLASTIC AND RECONSTRUCTIVE SURGEONS, INC., will present a combined meeting with its Educational Foundation, and the American Society of Maxillofacial Surgeons Oct. 21-26 at the Diplomat Hotel in Hollywood, Fla. The meeting will be composed of simultaneous scientific sessions, film and slide presentations, live televised operations, panels and requested videotaped reruns. There will also be 90 technical and scientific exhibits. Contact: Dallas F. Whaley, 29 E. Madison St., Suite 807, Chicago 60602, Exec. VPres.

CURRENT INTERNATIONAL MEETINGS

AMERICAN COLLEGE OF CHEST PHYSICIANS' 39th Annual Scientific Assembly will be held Oct. 21-25 at the Four Seasons Sheraton Hotel, Toronto, Canada. The assembly will feature five days of workshops, symposia, fireside conferences, and the presentation of 90 scientific papers. Also highlighting the assembly are luncheon panels, tutorial sessions, sunrise sessions, evening seminars, and a motion picture clinic. Contact: American College of Chest Physicians, 112 E. Chestnut St., Chicago, 60611.

AMERICAN SOCIETY OF CLINICAL HYPNOSIS will conduct its 16th Annual Scientific Meeting and workshop at the Hyatt Regency Hotel in Toronto, Canada, Oct.16-21. Featured guest speakers are Ray Birdwhistell, Ph.D., Professor of Research in Anthropology at Temple University, Yardley, Pa., and Jay Haley, Director of Family Research at the Philadelphia Child Guidance Clinic. Contact: F. D. Nowlin, 800 Washington Ave. SE, Minneapolis, Minn. 55414, Exec. Sec.

CIVIL AVIATION MEDICAL ASSOCIATION will hold its 8th Annual Symposium in Guadalajara, Jalisco, Mexico, Oct. 22-25. The meeting will be cosponsored by the Department of Aviation Medicine, DGAC of Mexico, and by the Civil Aviation Medical Association, Lake Bluff, Ill., and will have as its theme "Modern Concepts of Civil Aviation Medicine."
Contact: Luis A. Amezcua G., Avenida Progreso 186-101, Mexico 18, DF.

SYMPOSIA MEDICA FOUNDATION, in cooperation with The Royal Society of Medicine, will present an international seminar on Cardiovascular Disease to be held in London, Oct. 12-20. Registration fee: $100. Contact: Dr. Maxwell Gelfand, 305 E. 24 St., New York 10010, Exec. Dir.

WORLD CONFERENCE ON THE HUMAN ENVIRONMENT, cosponsored by the World Medical Association, Union of Yugoslav Medical Societies, American Medical Association, and United States Department of Health, Education, and Welfare, will be presented Oct. 23-26 in Primosten, Yugoslavia. This conference will cover not only pollution, but the effects of urbanization, housing, waste disposal, water supply, nutrition, radiation, and other factors on humans. The responsibilities of the medical and allied medical professions in improving the environment in developed and developing countries will be emphasized on the final day of the conference. There is no registration fee. Contact: The World Medical Association, 10 Columbus Circle, New York 10019.

WORLD MEDICAL ASSOCIATION will sponsor an annual assembly in Munich Germany, Oct. 14-20. The meeting will include the 100th anniversary of the Bundesaerztekammer—the German Medical Association, and a two-day session on the computer in medicine and the confidentiality of information between patient and physician. Contact: World Medical Association, 10 Columbus Circle, New York 10019.

Calendar of Listings

■ Denotes Texas Meetings

OCTOBER

AMERICAN ACADEMY OF FAMILY PHYSICIANS, Denver, Oct. 1-4, 1973. Roger Tusken, Volker Blvd. at Brookside, Kansas City, Mo. 64112, Exec. Dir.

AMERICAN ACADEMY OF PHYSICAL MEDICINE AND REHABILITATION, Washington, DC, Oct. 21-26, 1973. Creston Herold, 30 N. Michigan Ave., Chicago 60602, Exec. Off.

AMERICAN BOARD OF FAMILY PRACTICE, Oct. 20-21, 1973. Dr. Nicholas J. Pisacano, University of Kentucky Medical Center, Annex No. 2, Rm. 229, Lexington 40506, Sec.

AMERICAN COLLEGE OF GASTROENTEROLOGY, Los Angeles, Oct. 21-27. Daniel Weiss, 299 Broadway, New York 10007, Exec. Sec.

AMERICAN COLLEGE OF SURGEONS, Chicago, Oct. 15-19, 1973. C. Rollins Hanlon, 55 E. Erie St., Chicago 60611, Dir.

AMERICAN CONGRESS OF REHABILITATION MEDICINE, Washington, DC, Oct. 21-26, 1973. Creston Herold, 30 N. Michigan Ave., Chicago 60602, Exec. Off.

■ AMERICAN DENTAL ASSOCIATION, Houston, Oct. 28-Nov. 1, 1973. Dr. C. Gordon Watson, 211 E. Chicago Ave., Chicago 60611, Exec. Off.

AMERICAN DIETETIC ASSOCIATION, Denver, Oct. 22-26, 1973. Lorraine Thomas, 620 N. Michigan Ave., Chicago 60611.

AMERICAN SOCIETY OF ANESTHESIOLOGISTS, San Francisco, Oct. 7-11, 1973. John W. Andes, 515 Busse Highway, Park Ridge, Ill. 60068, Exec. Sec.

AMERICAN SOCIETY OF CLINICAL PATHOLOGISTS, Chicago, Oct. 19-26, 1973. Dr. George F. Stevenson, 2100 W. Harrison St., Chicago 60612, Exec. Off.

AMERICAN SOCIETY OF CLINICAL HYPNOSIS, Toronto, Ont., Oct. 16-21, 1973. Dr. Esther E. Bartlett, 181 Adams St., Quincy, Mass. 02169, Sec.

ASSOCIATION OF LIFE INSURANCE MEDICAL DIRECTORS OF AMERICA, New York City, Oct. 14-17, 1973. Dr. Arthur E. Brown, 501 Boylston St., Boston 02117, Sec.

MEDICAL SOCIETY OF THE US AND MEXICO, Tucson, Oct. 10-13, 1973. Mrs. Virginia E. Bryant, 333 W. Thomas Rd., No. 207, Phoenix 85013, Exec. Sec.

SOUTHERN PSYCHIATRIC ASSOCIATION, Miami, Oct. 6-9, 1973. Annette S. Boutwell, PO Box 10387, Raleigh, NC 27605, Exec. Sec.

NOVEMBER

AMERICAN ASSOCIATION OF BLOOD BANKS, Bal Harbour, Fla., Nov. 11-16, 1973. Lois J. James, 30 N. Michigan Ave., Chicago 60602, Cen. Office Mgr.

AMERICAN ASSOCIATION FOR RESPIRATORY THERAPY, Atlanta, Nov. 11-14, 1973. Winfield S. Singletary, 7411 Hines Pl., Dallas 75235, Exec. Off.

AMERICAN HEART ASSOCIATION, Atlantic City, N.J., Nov. 8-13, 1973. William Moore, 44 E. 23rd St., New York 10010, Exec. Dir.

AMERICAN MEDICAL WOMEN'S ASSOCIATION, Palm Beach, Fla., Nov. 7-10, 1973. Gertrude Conroy, 1740 Broadway, New York 10019, Exec. Sec.

ASSOCIATION OF AMERICAN MEDICAL COLLEGES, Washington, DC, Nov. 4-8, 1973. Dr. Charles C. Sprague, 1 Dupont Circle, NW, Washington, DC 20036, Chrmn.

■ AMERICAN ASSOCIATION FOR CLINICAL IMMUNOLOGY AND ALLERGY, San Antonio, Nov. 29-Dec. 2, 1973. Dr. Robert J. Brennan, 3471 N. Federal Hwy., Ft. Lauderdale, Fla. 33306, Prog. Chrmn.

ASSOCIATION OF MILITARY SURGEONS OF THE UNITED STATES, Washington, DC, Nov. 25-28, 1973. RADM. Walter Welham, 8502 Connecticut Ave., Chevy Chase, Md. 20015, Exec. Dir.

INTERNATIONAL CONGRESS OF GYNECOLOGICAL LAPAROSCOPY, New Orleans, Nov. 17-20, 1973. Dr. Jordan M. Phillips, 11239 S. Lakewood Blvd., Downey, Calif. 90241.

■ SOUTHERN MEDICAL ASSOCIATION, San Antonio, Nov. 11-14, 1973. Robert F. Butts, 2601 Highland Ave., Birmingham, Ala., Exec. Dir.

■ TEXAS ACADEMY OF FAMILY PHYSICIANS, San Antonio, Nov. 5-7, 1973. Donald C. Jackson, 1905 N. Lamar Blvd., Austin 78705, Exec. Off.

■ TEXAS DERMATOLOGICAL SOCIETY, San Antonio, Nov. 12-15, 1973. Dr. Eugene P. Schoch, Jr., 3A Medical Arts Sq., Austin 78705, Sec.

■ TEXAS MEDICAL ASSOCIATION, House of Delegates, Austin, Nov. 3-4, 1973. C. Lincoln Williston, 1801 N. Lamar Blvd., Austin 78701, Exec. Sec.

■ TEXAS NURSING HOME ASSOCIATION, San Antonio, Nov. 8-10, 1973. Sidney D. Rich, 6225 Hwy 290 East, Austin 78723, Exec. Off.

DECEMBER

AMERICAN ACADEMY OF DERMATOLOGY, Chicago, Dec. 1-6, 1973. Mrs. Betty Suor, 2250 NW Flanders St., Portland, Ore. 97210, Exec. Sec.

AMERICAN ACADEMY OF PSYCHOANALYSIS, New York City, Dec. 7-9, 1973. Dr. Jos. Barnett, 8 E. 77th St., New York 10009, Sec.

AMERICAN CANCER SOCIETY, INC., National Conference on Virology and Immunology in Human Cancer, New York City, Nov. 29-Dec. 1, 1973. Dr. Sidney L. Arje, American Cancer Society, Inc., 219 E. 42nd St., New York 10017.

AMERICAN MEDICAL ASSOCIATION, clinical convention, Anaheim, Calif., Dec. 1-5, 1973. AMA, 535 N. Dearborn St., Chicago 60610.

■ HERMANN HOSPITAL ALUMNI MEETING of the Department of Ophthalmology of The University of Texas Medical School, Houston, Dec. 15, 1973. Dr. Richard S. Ruiz, Department of Ophthalmology, 1121 Hermann Professional Bldg., Houston 77025, Dir.

SOUTHERN SURGICAL ASSOCIATION, Hot Springs, Va., Dec. 3-5, 1973. Dr. David C. Sabiston, Jr., Dept. of Surgery, Duke University Medical Center, Durham, N.C. 27710, Sec.

■ SOUTHWESTERN GYNECOLOGIC ASSEMBLY, Dallas, Dec. 7-9, 1973. Dr. R. Mainord Todd, 8226 Douglas, Dallas 75225, Sec.

■ TEXAS ACADEMY OF INTERNAL MEDICINE, Houston, Dec. 6, 1973. Dr. Tom W. Duke, PO Box 3460, Amarillo 79106, Sec.

■ TEXAS SOCIETY OF OPHTHALMOLOGY AND OTOLARYNGOLOGY, Austin, Dec. 7-8, 1973. Dr. Bert A. DeBord, Jr., Scott & White Clinic, Temple 76501, Sec.

JANUARY

AMERICAN ACADEMY OF ALLERGY, Bal Harbour, Fla., Jan. 19-23, 1974. James O. Kelley, 225 E. Michigan, Milwaukee, Wisc. 53202, Exec. Dir.

■ AMERICAN ACADEMY OF ORTHOPAEDIC SURGEONS, Dallas, Jan. 17-22, 1974. Charles V. Heck, 430 N. Michigan Ave., Chicago 60611, Exec. Dir.

■ AMERICAN SOCIETY FOR SURGERY OF THE HAND, Dallas, Jan. 15-17, 1974. Dr. Ray A. Elliott, Jr., 23 Hackett Blvd., Albany, NY 12208, Pub. Com.

SOUTHWEST ALLERGY FORUM, Phoenix, Ariz., Jan. 14-16, 1974. Dr. E. G. Barnet, 550 W. Thomas Rd., Suite 233D, Phoenix 85013, Pres.

■ TEXAS MEDICAL ASSOCIATION, Austin, Jan. 18-20, 1974. C. Lincoln Williston, 1801 N. Lamar Blvd., Austin 78701, Exec. Sec.

■ TEXAS SOCIETY OF PATHOLOGISTS, McAllen, Tex., Jan., 1974. Dr. James C. Stinson, Scott & White Clinic, Temple 76501, Sec.

■ UNITED CEREBRAL PALSY ASSOCIATION OF TEXAS, INC., Houston, Jan. 1974. L. D. Harris, 4810 Shoal Creek, Austin 78756.

FEBRUARY

■ AMERICAN ACADEMY OF FORENSIC SCIENCES, Dallas, Feb. 13-16, 1974. Harlan L. Kimball, PO Box 302, New Hartford, Conn. 60657, Exec. Off.

AMERICAN COLLEGE OF CARDIOLOGY, New York City, Feb. 11-15, 1974. Wm. D. Nelligan, 9650 Rockville Pike, Bethesda, Md. 20014.

■ AMERICAN COLLEGE OF SURGEONS, SOUTH TEXAS CHAPTER, Temple, Tex., Feb. 1-2, 1974. Dr. Peter B. Fisher, 615 Medical Towers, Houston 77025, Sec.

AMERICAN HOSPITAL ASSOCIATION, Washington, DC, Feb. 4-7, 1974. James E. Hague, 840 N. Lake Shore Dr., Chicago 60611, Sec.

■ FIRST DISTRICT MEDICAL SOCIETY, El Paso, Feb. 1-2, 1974. Dr. John Emmett, 612 University Towers, El Paso 79902, Sec.

■ INTERNATIONAL MEDICAL ASSEMBLY OF SOUTHWEST TEXAS, San Antonio, Feb. 28-Mar. 1, 1974. S. E. Cockrell, Jr., 202 W. French Pl., San Antonio 78212.

SOCIETY FOR CONTEMPORARY OPHTHALMOLOGY, Miami Beach, Feb. 6-10, 1974. Dr. John G. Bellows, 30 N. Michigan Ave., Chicago 60602, Exec. Dir.

■ TEXAS PUBLIC HEALTH ASSOCIATION, Houston, Feb. 17-20, 1974. Robert E. Monroe, 1117 W. 42nd, No. 201, Austin 78756, Exec. Sec.

MARCH

AMERICAN ASSOCIATION OF PATHOLOGISTS AND BACTERIOLOGISTS, San Francisco, Mar. 9-12, 1974. Robert Learmouth, 9650 Rockville Pike, Bethesda, Md. 20014.

AMERICAN SOCIETY OF ABDOMINAL SURGEONS, Las Vegas, Mar. 29-Apr. 3, 1974. Dr. Blaise F. Alfano, 675 Main St., Melrose, Mass. 02176.

■ DALLAS SOUTHERN CLINICAL SOCIETY, Dallas, Mar. 18-20, 1974. Robert L. Heath, 433 Medical Arts Bldg., Dallas 75201.

■ FIFTH DISTRICT MEDICAL SOCIETY, San Antonio, Mar. 1, 1974. S. E. Cockrell, Jr., 202 W. French Pl., San Antonio 78212.

■ NINTH DISTRICT MEDICAL SOCIETY, Sealy, Mar. 21, 1974. Dr. Max M. Diamond, 3332 Plainview, Pasadena 77504, Pres.

■ PRIVATE CLINICS AND HOSPITALS ASSOCIATION OF TEXAS, Houston, Mar. 21-22, 1974. Mrs. Judy Nichols, PO Box 155, Stephenville, Tex., Exec. Sec.

SOCIETY OF NUCLEAR MEDICINE, SOUTHWEST CHAPTER, Oklahoma City, Mar. 15-17, 1974. Dr. Thomas P. Haynie, 6723 Bertner, Houston 77025, Sec-Treas.

■ TEXAS ASSOCIATION OF OBSTETRICIANS AND GYNECOLOGISTS, Galveston, Mar. 8-9, 1974. Dr. Dennis M. Voulgaris, 2100 N. Fulton, Wharton, Tex. 77488, Sec.

■ TEXAS RADIOLOGICAL SOCIETY, San Antonio, Mar. 21-23, 1974. Dr. Francis E. O'Neill, 1128 Nix Prof. Bldg., San Antonio 78205, Sec-Treas.

APRIL

AMERICAN ACADEMY OF FACIAL PLASTIC AND RECONSTRUCTIVE SURGERY, Palm Beach, Fla., Apr. 20-22, 1974. Dr. Carl N. Patterson, 1110 W. Main St., Durham, NC, Exec. Off.

AMERICAN ACADEMY OF NEUROLOGY, San Francisco, Apr. 22-27, 1974. Stanley A. Nelson, 4005 W. 65th St., Minneapolis, Minn. 55435, Exec. Dir.

AMERICAN ASSOCIATION OF ANATOMISTS, Cleveland, Apr. 1-4, 1974. Dr. John E. Pauly, Dept. of Anatomy, University of Arkansas Medical Center, Little Rock 72201.

AMERICAN COLLEGE OF ALLERGISTS, Paris, France, Apr. 16-24, 1974. Dr. John D. Gillaspie, 2141 14th St., Boulder, Colo., Sec.-Treas.

■ AMERICAN COLLEGE HEALTH ASSOCIATION, Dallas, Apr. 2-5, 1974. James W. Dilley, 2807 Central, Evanston, Ill. 60201, Exec. Dir.

AMERICAN COLLEGE OF OBSTETRICIANS AND GYNECOLOGISTS, Las Vegas, Apr. 29, 1974. Dr. Michael Newton, One East Wacker Dr., Chicago 60601, Exec. Dir.

AMERICAN COLLEGE OF PHYSICIANS, New York, Apr. 1-5, 1974. Dr. Edward C. Rosenow, Jr., ACP, 4200 Pine St., Philadelphia 19104, Exec. VPres.

AMERICAN COLLEGE OF RADIOLOGY, New Orleans, Apr. 1-5, 1974. William C. Stronach, 20 N. Wacker Dr., Room 2920, Chicago 60606, Exec. Dir.

■ TEXAS DENTAL ASSOCIATION, Dallas, Apr. 28-May 1, 1974. Dr. Joe C. Carrington, Jr., 4920 N. Interregional Hwy., Austin 78751.

■ TEXAS UROLOGICAL SOCIETY, Fort Worth, Apr. 4-6, 1974. Dr. Hugh Lamensdorf, PO Box 11340, Fort Worth 76109, Sec.

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Important Note: This drug is not a simple analgesic. Do not administer casually. Carefully evaluate patients before starting treatment and keep them under close supervision. Obtain a detailed history, and complete physical and laboratory examination (complete hemogram, urinalysis, etc.) before prescribing and at frequent intervals thereafter. Carefully select patients, avoiding those responsive to routine measures, contraindicated patients or those who cannot be observed frequently. Warn patients not to exceed recommended dosage. Short-term relief of severe symptoms with the smallest possible dosage is the goal of therapy. Dosage should be taken with meals or a full glass of milk. Substitute alka capsules for tablets if dyspeptic symptoms occur. Patients should discontinue the drug and report immediately any sign of: fever, sore throat, oral lesions (symptoms of blood dyscrasia); dyspepsia, epigastric pain, symptoms of anemia, black or tarry stools or other evidence of intestinal ulceration or hemorrhage, skin reactions, significant weight gain or edema. A one-week trial period is adequate. Discontinue in the absence of a favorable response. Restrict treatment periods to one week in patients over sixty

Indications: Acute gouty arthritis, rheumatoid arthritis, rheumatoid spondylitis

Contraindications: Children 14 years or less; senile patients; history or symptoms of G.I. inflammation or ulceration including severe, recurrent or persistent dyspepsia; history or presence of drug allergy; blood dyscrasias; renal, hepatic or cardiac dysfunction; hypertension; thyroid disease; systemic edema; stomatitis and salivary gland enlargement due to the drug; polymyalgia rheumatica and temporal arteritis; patients receiving other potent chemotherapeutic agents, or long-term anticoagulant therapy

Warnings: Age, weight, dosage, duration of therapy, existence of concomitant diseases, and concurrent potent chemotherapy affect incidence of toxic reactions. Carefully instruct and observe the individual patient, especially the aging (forty years and over) who have increased susceptibility to the toxicity of the drug. Use lowest effective dosage. Weigh initially unpredictable benefits against potential risk of severe, even fatal, reactions. The disease condition itself is unaltered by the drug. Use with caution in first trimester of pregnancy and in nursing mothers. Drug may appear in cord blood and breast milk. Serious, even fatal, blood dyscrasias, including aplastic anemia, may occur suddenly despite regular hemograms, and may become manifest days or weeks after cessation of drug. Any significant change in total white count, relative decrease in granulocytes, appearance of immature forms, or fall in hematocrit should signal immediate cessation of therapy and complete hematologic investigation. Unexplained bleeding involving CNS, adrenals, and G.I. tract has occurred. The drug may potentiate action of insulin, sulfonylurea, and sulfonamide-type agents. Carefully observe patients taking these agents. Nontoxic and toxic goiters and myxedema have been reported (the drug reduces iodine uptake by the thyroid). Blurred vision can be a significant toxic symptom worthy of a complete ophthalmological examination. Swelling of ankles or face in patients under sixty may be prevented by reducing dosage. If edema occurs in patients over sixty, discontinue drug.

Precautions: The following should be accomplished at regular intervals: Careful detailed history for disease being treated and detection of earliest signs of adverse reactions; complete physical examination including check of patient's weight; complete weekly (especially for the aging) or an every two week blood check; pertinent laboratory studies. Caution patients about participating in activity requiring alertness and coordination, as driving a car, etc. Cases of leukemia have been reported in patients with a history of short- and long-term therapy. The majority of these patients were over forty. Remember that arthritic-type pains can be the presenting symptom of leukemia.

Adverse Reactions: This is a potent drug; its misuse can lead to serious results. Review detailed information before beginning therapy. Ulcerative esophagitis, acute and reactivated gastric and duodenal ulcer with perforation and hemorrhage, ulceration and perforation of large bowel, occult G.I. bleeding with anemia, gastritis, epigastric pain, hematemesis, dyspepsia, nausea, vomiting and diarrhea, abdominal distention, agranulocytosis, aplastic anemia, hemolytic anemia, anemia due to blood loss including occult G.I. bleeding, thrombocytopenia, pancytopenia, leukemia, leukopenia, bone marrow depression, sodium and chloride retention, water retention and edema, plasma dilution, respiratory alkalosis, metabolic acidosis, fatal and nonfatal hepatitis (cholestasis may or may not be prominent), petechiae, purpura without thrombocytopenia, toxic pruritus, erythema nodosum, erythema multiforme, Stevens-Johnson syndrome, Lyell's syndrome (toxic necrotizing epidermolysis), exfoliative dermatitis, serum sickness, hypersensitivity angiitis (polyarteritis), anaphylactic shock, urticaria, arthralgia, fever, rashes (all allergic reactions require prompt and permanent withdrawal of the drug), proteinuria, hematuria, oliguria, anuria, renal failure with azotemia, glomerulonephritis, acute tubular necrosis, nephrotic syndrome, bilateral renal cortical necrosis, renal stones, ureteral obstruction with uric acid crystals due to uricosuric action of drug, impaired renal function, cardiac decompensation, hypertension, pericarditis, diffuse interstitial myocarditis with muscle necrosis, perivascular granulomata, aggravation of temporal arteritis in patients with polymyalgia rheumatica, optic neuritis, blurred vision, retinal hemorrhage, toxic amblyopia, retinal detachment, hearing loss, hyperglycemia, thyroid hyperplasia, toxic goiter, association of hyperthyroidism and hypothyroidism (causal relationship not established), agitation, confusional states, lethargy; CNS reactions associated with overdosage, including convulsions, euphoria, psychosis, depression, headaches, hallucinations, giddiness, vertigo, coma, hyperventilation, insomnia; ulcerative stomatitis, salivary gland enlargement. (B)98-146-070-H(10/71)

For complete details, including dosage, please see full prescribing information

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Before prescribing Dalmane (flurazepam HCl), please consult Complete Product Information, a summary of which follows:

Indications: Effective in all types of insomnia characterized by difficulty in falling asleep, frequent nocturnal awakenings and/or early morning awakening; in patients with recurring insomnia or poor sleeping habits; and in acute or chronic medical situations requiring restful sleep. Since insomnia is often transient and intermittent, prolonged administration is generally not necessary or recommended

Contraindications: Known hypersensitivity to flurazepam HCl

Warnings: Caution patients about possible combined effects with alcohol and other CNS depressants. Caution against hazardous occupations requiring complete mental alertness (*e.g.*, operating machinery, driving). Use in women who are or may become pregnant only when potential benefits have been weighed against possible hazards. Not recommended for use in persons under 15 years of age. Though physical and psychological dependence have not been reported on recommended doses, use caution in administering to addiction-prone individuals or those who might increase dosage

Precautions: In elderly and debilitated, initial dosage should be limited to 15 mg to preclude oversedation, dizziness and/or ataxia. If combined with other drugs having hypnotic or CNS-depressant effects, consider potential additive effects. Employ usual precautions in patients who are severely depressed, or with latent depression or suicidal tendencies. Periodic blood counts and liver and kidney function tests are advised during repeated therapy. Observe usual precautions in presence of impaired renal or hepatic function.

Adverse Reactions: Dizziness, drowsiness, lightheadedness, staggering, ataxia and falling have occurred, particularly in elderly or debilitated patients. Severe sedation, lethargy, disorientation and coma, probably indicative of drug intolerance or overdosage, have been reported. Also reported were headache, heartburn, upset stomach, nausea, vomiting, diarrhea, constipation, GI pain, nervousness, talkativeness, apprehension, irritability, weakness, palpitations, chest pains, body and joint pains and GU complaints. There have also been rare occurrences of sweating, flushes, difficulty in focusing, blurred vision, burning eyes, faintness, hypotension, shortness of breath, pruritus, skin rash, dry mouth, bitter taste, excessive salivation, anorexia, euphoria, depression, slurred speech, confusion, restlessness, hallucinations, and elevated SGOT, SGPT, total and direct bilirubins and alkaline phosphatase. Paradoxical reactions, *e.g.*, excitement, stimulation and hyperactivity, have also been reported in rare instances

Dosage: Individualize for maximum beneficial effect. *Adults:* 30 mg usual dosage; 15 mg may suffice in some patients. *Elderly or debilitated patients:* 15 mg initially until response is determined

Supplied: Capsules containing 15 mg or 30 mg flurazepam HCl

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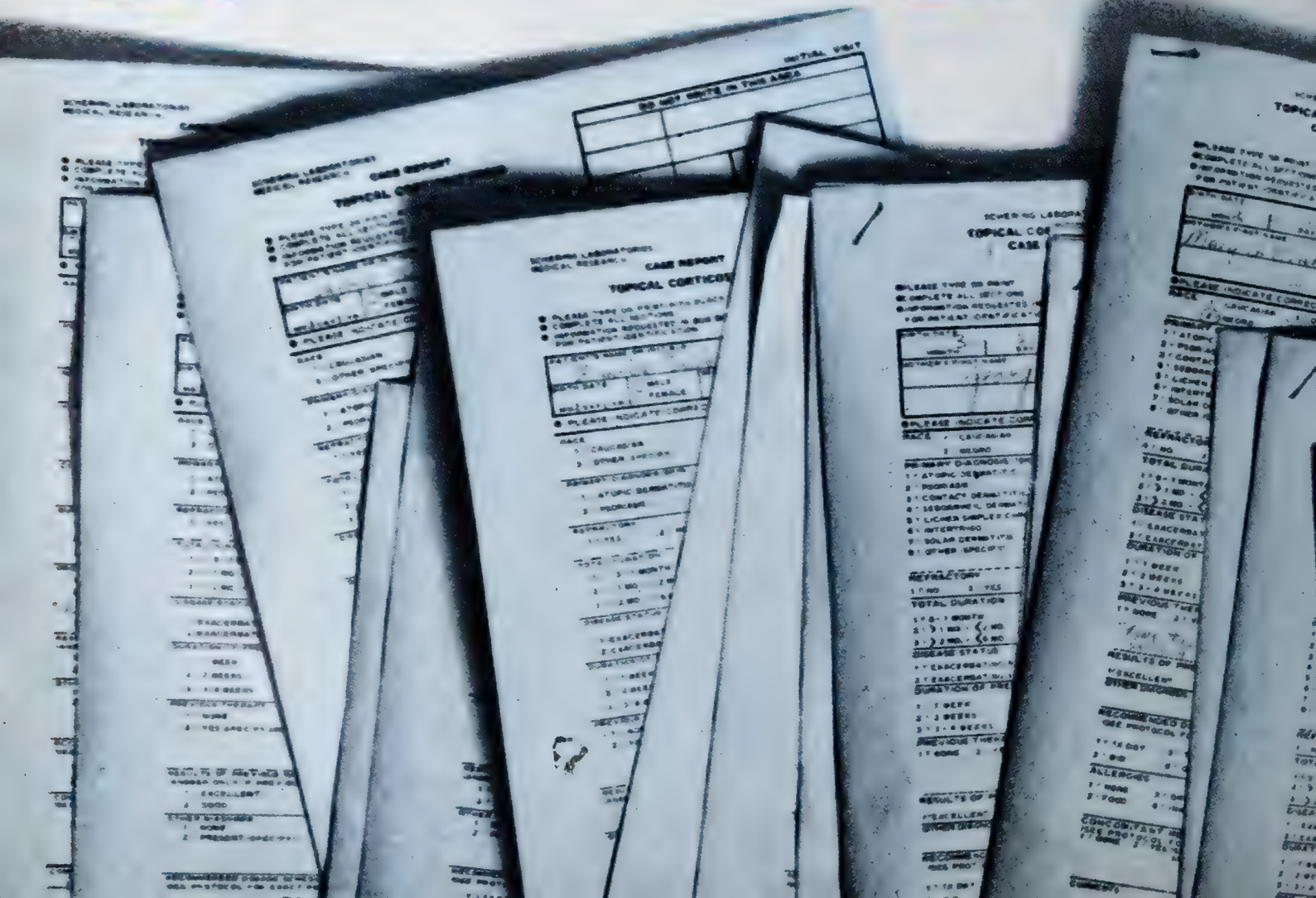

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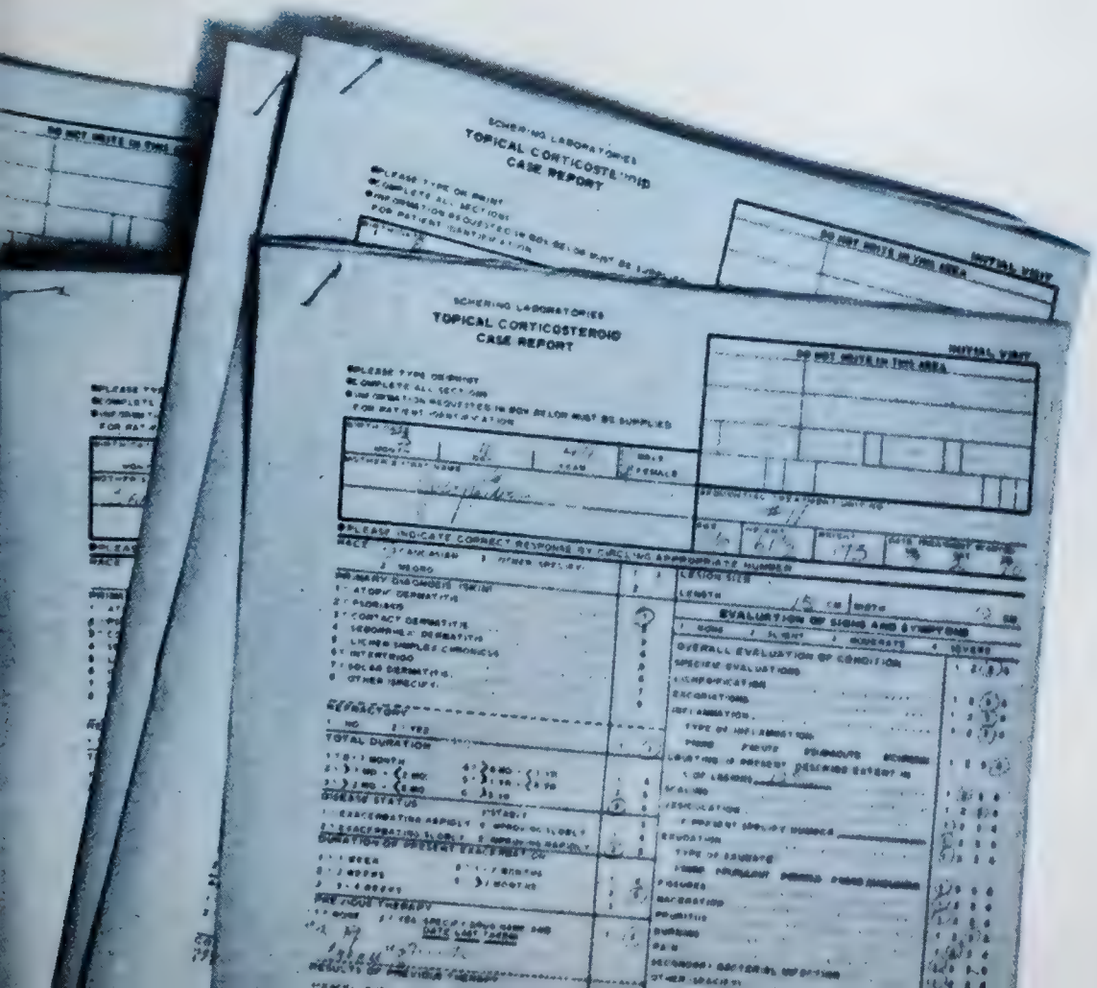

CLINICAL CONSIDERATIONS:

Description VALISONE products contain betamethasone valerate (9-fluoro-11$_\beta$,17,21-trihydroxy-16$_\beta$-methylpregna-1,4-diene-3,20-dione 17-valerate). Each gram of VALISONE Cream 0.1% contains 1.2 mg. betamethasone valerate (equivalent to 1.0 mg. betamethasone) in a soft, white, hydrophilic cream of water, mineral oil, petrolatum, polyethylene glycol 1000 monocetyl ether, cetostearyl alcohol, monobasic sodium phosphate, and phosphoric acid; 4-chloro-m-cresol is present as a preservative. Each gram of VALISONE Ointment 0.1% contains 1.2 mg. betamethasone valerate (equivalent to 1.0 mg. betamethasone) in an ointment base of liquid and white petrolatum, and hydrogenated lanolin. VALISONE Cream and Ointment contain no parabens.

Indications VALISONE Cream and Ointment are indicated for the relief of the inflammatory manifestations of corticosteroid-responsive dermatoses.

Contraindications VALISONE Cream and Ointment are contraindicated in vaccinia and varicella. Topical steroids are contraindicated in those patients with a history of hypersensitivity to any of the components of the preparation.

Precautions If irritation develops with the use of VALISONE Cream or Ointment, treatment should be discontinued and appropriate therapy instituted. In the presence of an infection, the use of an appropriate antifungal or antibacterial agent should be instituted. If a favorable response does not occur promptly, the corticosteroid should be discontinued until the infection has been adequately controlled. If extensive areas are treated or if the occlusive technique is used, the possibility exists of increased systemic absorption of the corticosteroid and suitable precautions should be taken. Although topical steroids have not been reported to have an adverse effect on pregnancy, the safety of their use in pregnant females has not been absolutely established. Therefore, they should not be used extensively in pregnant patients, in large amounts, or for prolonged periods of time. VALISONE Cream and Ointment are not for ophthalmic use.

Adverse Reactions The following local adverse reactions have been reported with topical corticosteroids: burning, itching, irritation, dryness, folliculitis, hypertrichosis, acneform eruptions, and hypopigmentation. The following may occur more frequently with occlusive dressings than without such therapy: maceration of the skin, secondary infection, skin atrophy, striae, and miliaria.

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For more complete details, consult Schering literature available from your Schering Representative or Professional Services Department, Schering Corporation, Kenilworth, New Jersey 07033.

References: *(1) Files of Headquarters Medical Research Division, Schering Corporation. (2) Carter, V. H., and Noojin, R. O.: Curr. Therap. Res. 9:253, 1967. (3) Falk, M. S.: Cutis 2:788, 1966. (4) Goldblum, R. W.: Pennsylvania Med. 69:50, 1966. (5) Nierman, M. M.: J. Indiana M. A. 10:1184, 1966. (6) Zimmerman, E. H.: Arch. Dermat. 95:514, 1967.*

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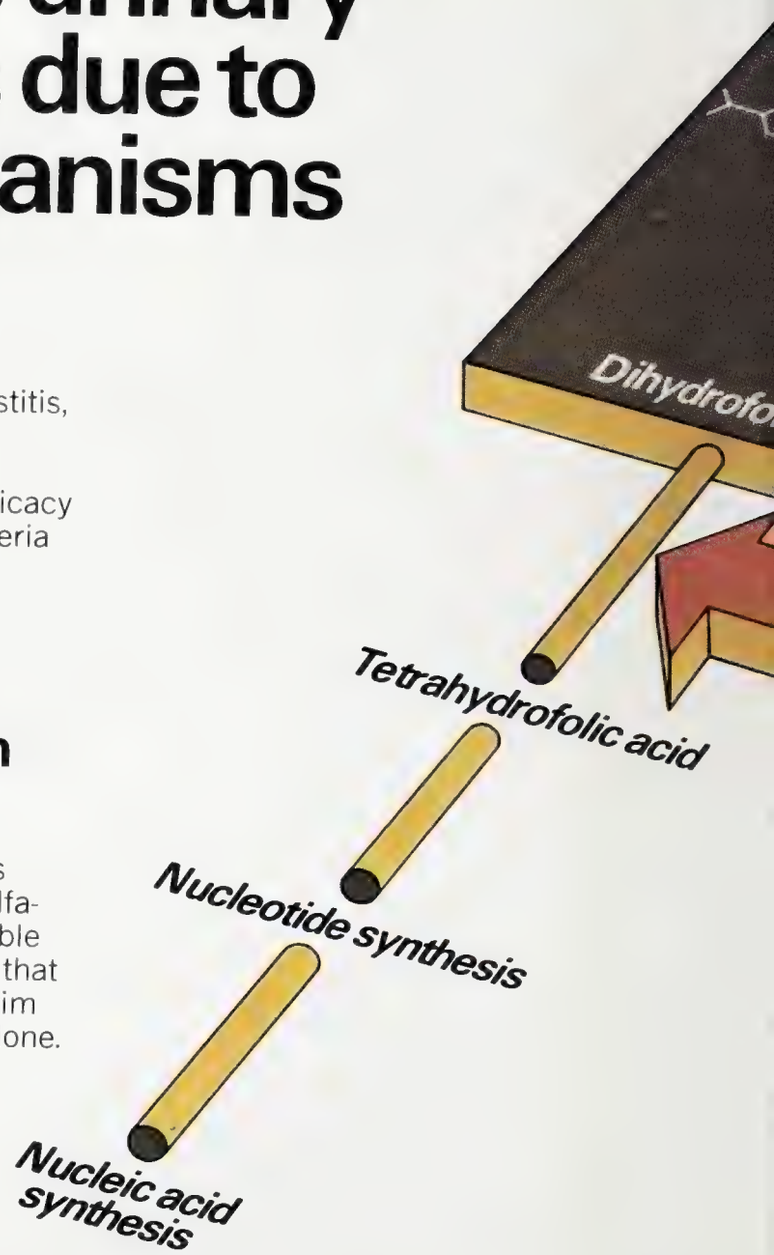
Each tablet contains 80 mg trimethoprim and 400 mg sulfamethoxazole.

a new type of antibacterial for a two-pronged attack against chronic urinary tract infections due to susceptible organisms

Bactrim is highly effective in the treatment of these infections – primarily pyelonephritis, pyelitis and cystitis, when due to susceptible organisms (usually *E. coli, Klebsiella-Enterobacter, Proteus mirabilis,* and, less frequently, indole-positive proteus species). This efficacy is related to the unique mode of action against bacteria (see opposite page), an action that, in effect, makes Bactrim a new type of antibacterial.

Bactrim significantly superior to constituents in patients with obstructive complications

In the presence of obstructive uropathy, Bactrim has demonstrated efficacy which is superior to either sulfamethoxazole or trimethoprim alone against susceptible organisms. In addition, *in vitro** studies have shown that bacterial resistance develops more slowly with Bactrim than with either trimethoprim or sulfamethoxazole alone.



*Please note that clinical conclusions cannot be extrapolated from *in vitro* studies.

ROCHE

interrupts life cycle of susceptible bacteria

Unique mode of action interrupts the life cycle at two important points, thereby impeding the production of nucleic acids and proteins essential to these bacteria. These consecutive interruptions occur because sulfamethoxazole and trimethoprim resemble naturally existing substrates. By competitive replacement of these substrates, they inhibit further synthesis.

new **BACTRIM**™

Each tablet contains 80 mg trimethoprim and 400 mg sulfamethoxazole.

for chronic urinary tract infections

Before prescribing, please see complete product information on last page of advertisement.

Excellent clinical response in chronic urinary tract infections

A multiclinic, double-blind study* of response to a ten-day course of therapy in 471† patients with chronic urinary tract infections demonstrated the superiority of Bactrim. On the 10th day after initiation of therapy, 91.7% (of 168 patients) showed significant bacteriological response to Bactrim compared with 81.2% (of 144 patients) to trimethoprim and 64.5% (of 155 patients) to sulfamethoxazole. In patients with obstructive complications, 10th day response was 94.8% (of 97 patients) to Bactrim, 72.9% (of 85 patients) to trimethoprim and 58.5% (of 94 patients) to sulfamethoxazole.

Excellent response maintained

Bactrim proved equally impressive in maintaining this bacteriological response. In the above study, after ten-day therapy with Bactrim, 68.4% of patients with chronic urinary tract infections maintained response for up to 42 consecutive days, compared with 59.7% with trimethoprim and 44.4% with sulfamethoxazole. In patients with obstruction, 70.8% of those on Bactrim maintained response for up to 42 consecutive days, compared with 49.4% on trimethoprim and 38.8% on sulfamethoxazole. The figures are particularly remarkable in cases with urinary obstruction—cases regarded as being notoriously difficult to treat.

To date, low incidence of significant side effects

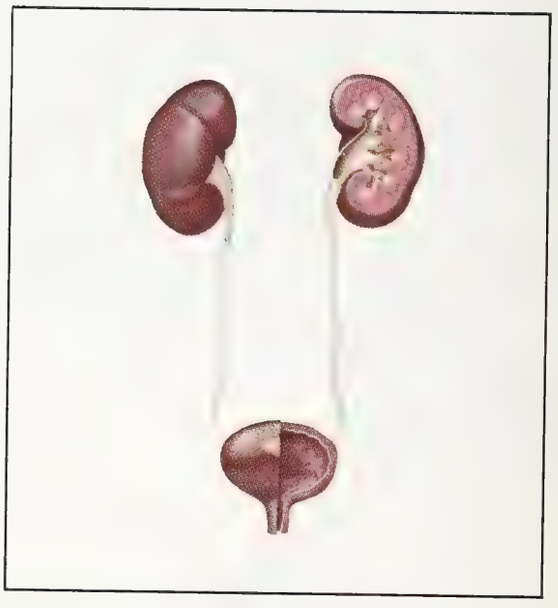
Although Bactrim demonstrated impressive clinic results, it is important to note that the incidence o clinically significant adverse effects was low, main nausea and/or vomiting, rash, leukopenia, SGOT increase and creatinine increase.

Bactrim should be given with caution to patients with impaired renal or hepatic function, possible folate deficiency and to those with severe allergy bronchial asthma. Adequate fluid intake must be maintained. Complete blood counts, urinalyses wi careful microscopic examination, and renal function tests should be performed during therapy.

Currently, the increasing frequency of resistant organisms is a limitation of the usefulness of all antibacterial agents, especially in the treatmen of chronic and recurrent urinary tract infections.

Usual adult dosage: two tablets every twelve hour for 10 to 14 days; no loading dose required.

* Data on file, Hoffmann-La Roche Inc., Nutley, N.J. 07110
† 4 patients not available for evaluation at day 10.



new **BACTRIM**™

Each tablet contains 80 mg trimethoprim and 400 mg sulfamethoxazole.

for chronic urinary tract infections

ROCHE

Roche Laboratories
Division of Hoffmann-La Roche Inc
Nutley, N.J. 07110

Before prescribing, please consult complete product information on facing page.

Complete Product Information:

Description: Bactrim is a synthetic antibacterial combination product, available in scored light-green tablets, each containing 80 mg trimethoprim and 400 mg sulfamethoxazole.

Trimethoprim is 2,4-diamino-5-(3,4,5-trimethoxybenzyl) pyrimidine. It is a white to light-yellow, odorless, bitter compound with a molecular weight of 290.3.

Sulfamethoxazole is N^1-(5-methyl-3-isoxazolyl) sulfanilamide. It is an almost white in color, odorless, tasteless compound with a molecular weight of 253.28.

Actions: *Microbiology:* Sulfamethoxazole inhibits bacterial synthesis of dihydrofolic acid by competing with *para*-aminobenzoic acid. Trimethoprim blocks the production of tetrahydrofolic acid from dihydrofolic acid by binding to and reversibly inhibiting the required enzyme, dihydrofolate reductase. Thus, Bactrim blocks two consecutive steps in the biosynthesis of nucleic acids and proteins essential to many bacteria.

In vitro studies have shown that bacterial resistance develops more slowly with Bactrim than with trimethoprim or sulfamethoxazole alone.

In vitro serial dilution tests have shown that the spectrum of antibacterial activity of Bactrim includes the common urinary tract pathogens with the exception of *Pseudomonas aeruginosa.* The following organisms are usually susceptible: *Escherichia coli, Klebsiella-Enterobacter, Proteus mirabilis* and indole-positive proteus species.

Representative Minimum Inhibitory Concentration Values for Bactrim-Susceptible Organisms
(MIC—mcg/ml)

Bacteria	Trimethoprim alone	Sulfamethoxazole alone	TMP/SMX (1:20) TMP	SMX
Escherichia coli	0.05—1.5	1.0 —245	0.05—0.5	0.95— 9.5
Proteus spp. indole positive	0.5 —5.0	7.35 —300	0.05—1.5	0.95—28.5
Proteus mirabilis	0.5 —1.5	7.35 — 30	0.05—0.15	0.95— 2.85
Klebsiella-Enterobacter	0.15—5.0	0.735—245	0.05—1.5	0.95—28.5

Human Pharmacology: Bactrim is rapidly absorbed following oral administration. The blood levels of trimethoprim and sulfamethoxazole are similar to those achieved when each component is given alone. Peak blood levels for the individual components occur one to four hours after oral administration. The half-lives of sulfamethoxazole and trimethoprim, 10 and 16 hours respectively, are relatively the same regardless of whether these compounds are administered as individual components or as Bactrim. Detectable amounts of trimethoprim and sulfamethoxazole are present in the blood 24 hours after drug administration. Free sulfamethoxazole and trimethoprim blood levels are proportionately dose-dependent. On repeated administration, the steady-state ratio of trimethoprim to sulfamethoxazole levels in the blood is about 1:20.

Sulfamethoxazole exists in the blood as free, conjugated and protein-bound forms; trimethoprim is present as free, protein-bound and metabolized forms. The free forms are considered to be the therapeutically active forms. Approximately 44 percent of trimethoprim and 70 percent of sulfamethoxazole are protein-bound in the blood. The presence of 10 mg percent sulfamethoxazole in plasma decreases the protein binding of trimethoprim to an insignificant degree; trimethoprim does not influence the protein binding of sulfamethoxazole.

Excretion of Bactrim is chiefly by the kidneys through both glomerular filtration and tubular secretion. Urine concentrations of both sulfamethoxazole and trimethoprim are considerably higher than are the concentrations in the blood. When administered together as in Bactrim, neither sulfamethoxazole nor trimethoprim affects the urinary excretion pattern of the other.

Indications: Chronic urinary tract infections (primarily pyelonephritis, pyelitis and cystitis) due to susceptible organisms (usually *E. coli, Klebsiella-Enterobacter, Proteus mirabilis,* and, less frequently, indole-positive proteus species).

Important note: **Currently, the increasing frequency of resistant organisms is a limitation of the usefulness of all antibacterial agents, especially in the treatment of chronic and recurrent urinary tract infections.**

Contraindications: Hypersensitivity to trimethoprim or sulfonamides. Pregnancy and during the nursing period (see Reproduction Studies).

Warnings: Deaths associated with the administration of sulfonamides have been reported from hypersensitivity reactions, agranulocytosis, aplastic anemia and other blood dyscrasias. Experience with trimethoprim alone is much more limited, but it has been reported to interfere with hematopoiesis in occasional patients. In elderly patients concurrently receiving certain diuretics, primarily thiazides, an increased incidence of thrombopenia with purpura has been reported.

The presence of clinical signs such as sore throat, fever, pallor, purpura or jaundice may be early indications of serious blood disorders. Complete blood counts should be done frequently in patients receiving Bactrim. If a significant reduction in the count of any formed blood element is noted, Bactrim should be discontinued.

At the present time, there is insufficient clinical information on the use of Bactrim in infants and children under 12 years of age to recommend its use.

Precautions: Bactrim should be given with caution to patients with impaired renal or hepatic function, to those with possible folate deficiency and to those with severe allergy or bronchial asthma. In glucose-6-phosphate dehydrogenase-deficient individuals, hemolysis may occur. This reaction is frequently dose-related. Adequate fluid intake must be maintained in order to prevent crystalluria and stone formation. Urinalyses with careful microscopic examination and renal function tests should be performed during therapy, particularly for those patients with impaired renal function.

Adverse Reactions: For completeness, all major reactions to sulfonamides and to trimethoprim are included below, even though they may not have been reported with Bactrim.

Blood dyscrasias: Agranulocytosis, aplastic anemia, megaloblastic anemia, thrombopenia, leukopenia, hemolytic anemia, purpura, hypoprothrombinemia and methemoglobinemia.

Allergic reactions: Erythema multiforme, Stevens-Johnson syndrome, generalized skin eruptions, epidermal necrolysis, urticaria, serum sickness, pruritus, exfoliative dermatitis, anaphylactoid reactions, periorbital edema, conjunctival and scleral injection, photosensitization, arthralgia and allergic myocarditis.

Gastrointestinal reactions: Glossitis, stomatitis, nausea, emesis, abdominal pains, hepatitis, diarrhea and pancreatitis.

C.N.S. reactions: Headache, peripheral neuritis, mental depression, convulsions, ataxia, hallucinations, tinnitus, vertigo, insomnia, apathy, fatigue, muscle weakness and nervousness.

Miscellaneous reactions: Drug fever, chills, and toxic nephrosis with oliguria and anuria. Periarteritis nodosa and L. E. phenomenon have occurred.

The sulfonamides bear certain chemical similarities to some goitrogens, diuretics (acetazolamide and the thiazides) and oral hypoglycemic agents. Goiter production, diuresis and hypoglycemia have occurred rarely in patients receiving sulfonamides. Cross-sensitivity may exist with these agents. Rats appear to be especially susceptible to the goitrogenic effects of sulfonamides, and long-term administration has produced thyroid malignancies in the species.

Dosage and Administration: Not recommended for use in children under 12 years of age.

The usual adult dosage is two tablets every 12 hours for 10 to 14 days.

For patients with renal impairment:

Creatinine Clearance (ml/min)	Recommended Dosage Regimen
Above 30	Usual standard regimen
15-30	2 tablets every 24 hours
Below 15	Use not recommended

How Supplied: Tablets, containing 80 mg trimethoprim and 400 mg sulfamethoxazole—bottles of 100 and 500; Tel-E-Dose® packages of 1000; Prescription Paks of 40, available singly and in trays of 10. Imprint on tablets: ROCHE 50.

Reproduction Studies: In rats, doses of 533 mg/kg sulfamethoxazole or 200 mg/kg trimethoprim produced teratological effects manifested mainly as cleft palates. The highest dose which did not cause cleft palates in rats was 512 mg/kg sulfamethoxazole or 192 mg/kg trimethoprim when administered separately. In two studies in rats, no teratology was observed when 512 mg/kg of sulfamethoxazole was used in combination with 128 mg/kg of trimethoprim. However, in one study, cleft palates were observed in one litter out of 9 when 355 mg/kg of sulfamethoxazole was used in combination with 88 mg/kg of trimethoprim.

In rabbits, trimethoprim administered by intubation from days 8 to 16 of pregnancy at dosages up to 500 mg/kg resulted in higher incidences of dead and resorbed fetuses, particularly at 500 mg/kg. However, there were no significant drug-related teratological effects.

BACTRIM™

Each tablet contains 80 mg trimethoprim and 400 mg sulfamethoxazole.

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Roche Laboratories
Division of Hoffmann-La Roche Inc.
Nutley, N.J. 07110

Recommendations† on Combination Live Virus Vaccines

American Academy of Pediatrics

Committee on Infectious Diseases

In the September 15, 1971 *AAP Newsletter* sent to Academy members, the Committee on Infectious Diseases of the American Academy of Pediatrics stated its recommendations on the use of combination live virus vaccines. After a careful review of available data, the committee concluded that:

- "This information indicates that the products are both safe and effective when used as directed."
- The vaccine "...can, therefore, be recommended with the obvious advantages of reduction in the number of injections for any given child and a concomitant decrease in the required visits to a physician's office or clinic."

United States Public Health Service

Advisory Committee on Immunization Practices

In the April 24, 1971 issue of *Morbidity and Mortality Weekly Report*, the Advisory Committee on Immunization Practices of the United States Public Health Service presented recommendations on the use of combination live virus vaccines. The committee stated that:

- "Data indicate that antibody response to each component of these combination vaccines is comparable with antibody response to the individual vaccines given separately.
- "There is no evidence that adverse reactions to the combined products occur more frequently or are more severe than known reactions to the individual vaccines (see pertinent ACIP recommendations).
- "The obvious convenience of giving already selected antigens in combined form should encourage consideration of using these products when appropriate."

†For complete text of both recommendations see your MSD representative or write to Professional Service Dept., Merck Sharp & Dohme, West Point, Pa. 19486.

M-M-R*

(MEASLES, MUMPS AND RUBELLA VIRUS VACCINE, LIVE | MSD)

Single-dose vials

M-M-R, given in a single injection, fits easily into your routine immunization program for well babies.

Given at age 12 months, M-M-R provides for vaccination early in life against measles, mumps, and rubella.

MSD suggested immunization schedule for well babies	
Age	**Vaccine(s)**
2 months	DPT (diphtheria-pertussis-tetanus) Oral poliomyelitis vaccine (triple)
3 months	DPT[1]
4 months	DPT Oral poliomyelitis vaccine (triple)
6 months	Oral poliomyelitis vaccine (triple)
12 MONTHS	**M-M-R (MEASLES, MUMPS AND RUBELLA VIRUS VACCINE, LIVE, MSD)**

1. This vaccination may be given at 3 months, 5 months, or at 6 months, depending on your preference or on the condition of the child.

Since vaccination with a live virus vaccine may depress the results of a tuberculin test for four weeks or longer, the test and the vaccine should not be given during the same office visit.

*Trademark of Merck & Co., Inc.

For a brief summary of prescribing information, please see following page.

M-M-R
(MEASLES, MUMPS AND RUBELLA VIRUS VACCINE, LIVE | MSD)

Single-dose vials

No untoward reactions peculiar to the combination vaccine (M-M-R) have been reported.

Moderate fever (101–102.9 F) occurs occasionally. High fever (over 103 F) occurs less commonly. On rare occasions, children who develop fever may exhibit febrile convulsions. Rash (usually minimal and without generalized distribution) may occur infrequently.

Since clinical experience with measles, mumps, and rubella virus vaccines given individually indicates that very rarely encephalitis and other nervous system reactions have occurred, such reactions may also occur with M-M-R. A cause and effect relationship, however, has not been established.

Excretion of the live attenuated rubella virus from the throat has occurred in the majority of susceptible individuals administered the rubella vaccine. There is no definitive evidence to indicate that such virus is contagious to susceptible persons who are in contact with the vaccinated individuals. Consequently, transmission, while accepted as a theoretical possibility, has not been regarded as a significant risk.

Must not be given to women who are pregnant or who might become pregnant within three months following vaccination.

Contraindications: Pregnancy or possibility of pregnancy within three months following vaccination; infants less than one year old; sensitivity to chicken or duck, chicken or duck eggs or feathers, or neomycin; any febrile respiratory illness or other active febrile infection; active untreated tuberculosis; therapy with ACTH, corticosteroids, irradiation, alkylating agents, or antimetabolites; blood dyscrasias, leukemia, lymphomas of any type, or other malignant neoplasms affecting the bone marrow or lymphatic systems; gamma globulin deficiency, i.e., agammaglobulinemia, hypogammaglobulinemia, and dysgammaglobulinemia.

Precautions: Administer subcutaneously; do not give intravenously. Epinephrine should be available for immediate use should an anaphylactoid reaction occur.

Should not be given less than one month before or after immunization with other *live* virus vaccines; vaccination should be deferred for at least six weeks following blood transfusions or administration of more than 0.02 cc immune serum globulin (human) per pound of body weight, or human plasma.

Due caution should be employed in children with a history of febrile convulsions, cerebral injury, or any other condition in which stress due to fever should be avoided. The physician should be alert to the temperature elevation which may occur after vaccination.

Excretion of the live attenuated rubella virus from the throat has occurred in the majority of susceptible individuals administered the rubella vaccine. There is no definitive evidence to indicate that such virus is contagious to susceptible persons who are in contact with the vaccinated individuals. Consequently, transmission, while accepted as a theoretical possibility, has not been regarded as a significant risk.

Attenuated live virus measles and mumps vaccines, given separately, may temporarily depress tuberculin skin sensitivity; therefore, if a tuberculin test is to be done, it should be scheduled before vaccination, to avoid the possibility of a false negative response.

Before reconstitution, refrigerate vaccine at 2–8 C (35.6–46.4 F) and *protect from light*. Use only diluent supplied to reconstitute vaccine. If not used immediately, return reconstituted vaccine to refrigerator at 2–8 C (35.6–46.4 F), and discard after eight hours.

Adverse Reactions: Fever, rash; mild local reactions such as erythema, induration, tenderness, regional lymphadenopathy; parotitis; thrombocytopenia and purpura; allergic reactions such as urticaria; arthritis, arthralgia, and polyneuritis.

Occasionally, moderate fever (101–102.9 F); less commonly, high fever (above 103 F); rarely, febrile convulsions.

Encephalitis and other nervous system reactions that have occurred very rarely with the individual vaccines may also occur with the combined vaccine.

Transient arthritis, arthralgia, and polyneuritis are features of natural rubella and vary in frequency and severity with age and sex, being greatest in adult females and least in prepubertal children. Such reactions have been reported with live attenuated rubella virus vaccines. Symptoms relating to joints (pain, swelling, stiffness, etc.) and to peripheral nerves (pain, numbness, tingling, etc.) occurring within approximately two months after immunization should be considered as possibly vaccine related. Symptoms have generally been mild and of no more than three days' duration. The incidence in prepubertal children would appear to be less than 1% for reactions that would interfere with normal activity or necessitate medical attention.

How Supplied: Single-dose vials of lyophilized vaccine, containing when reconstituted not less than 1,000 $TCID_{50}$ (tissue culture infectious doses) of measles virus vaccine, live, attenuated, 5,000 $TCID_{50}$ of mumps virus vaccine, live, and 1,000 $TCID_{50}$ of rubella virus vaccine, live, expressed in terms of the assigned titer of the NIH Reference Measles, Mumps, and Rubella Viruses, and approximately 25 mcg neomycin, with a disposable syringe containing diluent and fitted with a 25-gauge, 5/8" needle. Also in boxes of 10 single-dose vials nested in a pop-out tray with a separate box of 10 diluent-containing syringes.

For more detailed information, consult your MSD representative or see full prescribing information. Merck Sharp & Dohme, Division of Merck & Co., Inc., West Point, Pa. 19486

MSD
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CONTINUING EDUCATION COURSES

SEPTEMBER

Acupuncture: A course entitled "Acupuncture 1973" will be presented Sept. 29 at The University of Texas Health Science Center Auditorium, San Antonio. Sponsored by The University of Texas Medical School at San Antonio, the course is accredited for 6 hours AAFP and Category I, AMA Physicians Recognition Award. Fee: $65, doctors; $35, medical students. Contact: Dr. Paul Cutler, Associate Dean for Clinical Affairs, 7703 Floyd Curl Drive, San Antonio 78284.

OCTOBER

Cardiology: Texas Tech University School of Medicine will present a one-day course entitled "Clinical Physiology of the Cardiovascular System," Oct. 18. Contact: Walter R. Gault, Texas Tech University School of Medicine, PO Box 4569, Lubbock 79409.

Cancer: The Cancer Clinical Investigation Review Committee and the Clinical Investigations Branch of the National Cancer Institute are sponsoring a symposium on multiple myeloma Oct. 22-23 in Altanta, Ga. The object of this symposium is to provide an updating of the present state of the art and science of multiple myeloma, of monoclonal gammopathies in general, and of clinical considerations of this group of diseases in the broadest sense. Contact: Mrs. Jeanne Schaub, MW 408, John Sealy Hospital Building, The University of Texas Medical Branch, Galveston 77550.

Colposcopy: The University of Texas Medical Branch at Galveston will sponsor a course entitled "Introductory Course in Colposcopy," Oct. 19-20, 1973, at the Galvez Hotel, Galveston. Contact: Dr. S. R. Lewis, Director, Postgraduate Division, The University of Texas Medical Branch, Galveston 77550.

Coronary Artery Disease: Baylor College of Medicine in Houston will have a postgraduate course, "Coronary Artery Disease: 1973," Oct. 3-5. Contact: George E. Stewart, Jr., American Heart Association, 44 E. 23rd St., New York 10010.

Dermatology: The University of Texas Medical School at San Antonio will sponsor a two-day program, "Dermatology for the Family Physician," Oct. 27-28, in San Antonio. Credit: 8 hours, AAFP and Category 1, AMA Physician's Recognition Award. Fee: $50. Contact: Dr. Paul Cutler, Associate Dean for Clinical Affairs, 7703 Floyd Curl Dr., San Antonio 78284.

Diabetes: "A Practical Approach to the Management of Diabetes" is the subject of the course to be presented Oct. 20 at the Hilton Palacio Del Rio, San Antonio. The University of Texas Medical School at San Antonio will sponsor the course, and it is acceptable for 6 hours AAFP and Category I, AMA Physicians Recognition Award. Fee: $15. Contact Dr. Paul Cutler, Associate Dean for Clinical Affairs, 7703 Floyd Curl Dr., San Antonio 78284.

Emergency Medicine: Four separate postgraduate courses, including emergency cardiac problems, trauma, acute respiratory problems, and advance nursing physician assessment of cardiovascular and respiratory systems, will be presented at the Scientific Assembly of the American College of Emergency Physicians and the Emergency Department Nurses Association to be held at the Dallas Convention Center, Oct. 23-25. Fee: $25 per course. Contact: American College of Emergency Physicians, 241 E. Saginaw St., East Lansing, Mich. 48823.

General Medicine: A symposium in general medicine will be presented by Tom Green Eight Counties Medical Society and Lederle Laboratories Oct. 27, in San Angelo. There is no fee for the course, and it is accredited for 6 hours by AAFP. Contact: Dr. John P. Coughlin, 2102 Pecos, San Angelo 76901.

Human Genetics: "Human Genetics for the Family Physician and the Pediatrician," sponsored by The University of Texas Medical School at San Antonio, will be presented Oct. 12-13, to review the principles of human inheritance and the current state of the most exciting "frontier" in clinical practice. Accreditation: 10 hours by the AAFP and Category 1, AMA Physician's Recognition Award. Fee: $50. Contact: Dr. Paul Cutler, Associate Dean for Clinical Affairs, 7703 Floyd Curl Dr., San Antonio 78284.

Medical Intensive Care: Cardiac and pulmonary problems which require intensive care will be the focus of the course sponsored by The University of Texas Medical School at San Antonio Oct. 11-Dec. 13. The course is accredited for 90 hours by the AAFP and Category 1 of the AMA Physician's Recognition Award. Fee: $150. Contact: Dr. Paul Cutler, Associate Dean for Clinical Affairs, 7703 Floyd Curl Dr., San Antonio 78284.

Psychiatry: The Third Helen Scott Saulsbury Lecture in Psychiatry will be presented at Scott and White Memorial Hospital in October. It is sponsored by Scott and White Memorial Hospital and Scott, Sherwood and Brindley Foundation, Temple. Credit is one hour, AAFP, and there is no fee. Contact: Department of Continuing Medical Education, Scott and White Memorial Hospital, Temple 76501.

Neurology and Psychiatry: A conference on "Practical Neurology and Psychiatry" will be held Oct. 12-13, at Scott and White Memorial Hospital, Temple. This program will present a practical approach to common office problems including cerebrovascular disease, headache, back pain, anxiety and depression. Dr. Joe Foley, Department of Neurology, Western Reserve University and members of the medical staff, Scott and White Clinic, will participate in case presentations, workshops and demonstrations. This conference is acceptable for Category I, AMA Physician's Recognition Award. Contact: Dr.

Paxton H. Howard, Director, Continuing Medical Education, Scott and White Memorial Hospital, Temple 76501.

Oncology: Baylor College of Medicine at Houston will sponsor a course in clinical oncology Oct. 2-Dec. 14. Enrollment is unlimited and there is no fee. Teaching methods to be used are audiovisual materials, clinical conferences, lectures, open question and panel discussions, and seminars. Contact: Dr. Montague Lane, Division of Clinical Oncology, Baylor College of Medicine, Texas Medical Center, Houston 77025.

Psychiatry: Sponsored by The University of Texas Medical School at San Antonio, a course entitled "Psychiatric Treatment in the 70's" will be presented at the Inn of the Hills, Kerrville, Tex., Oct. 19-21. The course will include discussions on the referral of children, use of psychotropic drugs, treatment of adolescents, and new approaches to helping those with sexual disorders. This course is acceptable for 9 hours by the AAFP and Category 1, AMA Physician's Recognition Award. Fee: $60. Contact: Dr. Paul Cutler, Associate Dean for Clinical Affairs, 7703 Floyd Curl Dr., San Antonio 78284.

Rheumatology: "Rheumatology for the Family Physician," a course covering common rheumatic problems with emphasis upon diagnosis, interpretation of laboratory results, and both the principles as well as the specifics of management, will be presented Oct. 25-Dec. 20 by The University of Texas Medical School at San Antonio. The course is acceptable for 16 hours by the AAFP and Category 1, AMA Physician's Recognition Award. Registration fee: $50. Contact: Dr. Paul Cutler, Associate Dean for Clinical Affairs, 7703 Floyd Curl Dr., San Antonio 78284.

NOVEMBER

Hypertension: A brief review of new developments in the diagnosis and management of the hypertension patient will be presented by The University of Texas Health Science Center at Houston Nov. 19 in the Jesse H. Jones Library Auditorium. This program is designed to help the physician apply and extend new information concerning antihypertensive drug therapy to those who have a reasonable chance of benefiting from it. Registration fee is $15. Contact: Office of the Director, The University of Texas Health Science Center at Houston, Division of Continuing Education, PO Box 20367, Houston 77025.

Malignant Disease: "Radiologic and Other Biophysical Methods in Tumor Diagnosis" will be the subject of the 18th Annual Clinical Conference Nov. 7-9, at the Shamrock Hilton Hotel in Houston. The meeting, cosponsored by The University of Texas M. D. Anderson Hospital and Tumor Institute at Houston, The University of Texas Health Science Center at Houston, American Cancer Society, and Texas Society of Pathologists, will cover a variety of topics including recent advances in cancer radiology nuclear imaging techniques as applied to oncology, and the use of other physical parameters (ultrasound, infrared, etc.) in oncologic diagnosis and treatment planning. Contact: Dr. Rulon W. Rawson, Vice President for Education and Program Development, The University of Texas M. D. Anderson Hospital and Tumor Institute, 6723 Bertner, Houston 77025.

Obstetrics and Gynecology: A review of recent developments in obstetrics and gynecology for the practicing physician and candidates for the American Board Examinations will be presented by The University of Texas Health Science Center at Houston Nov. 8-10 at St. Joseph Hospital, Houston. Contact: Office of the Director, The University of Texas Health Science Center at Houston, Division of Continuing Education, PO Box 20367, Houston 77025.

Pediatrics: "Office Practice of Pediatrics and Neonatology," a one-day course to be held Nov. 17, will be cosponsored by South Plains Chapter, Texas Academy of Family Physicians and Texas Tech University School of Medicine. The course will be held at St. Mary of the Plains Hospital, Lubbock. Contact: Walter R. Gault, Texas Tech University School of Medicine, PO Box 4569, Lubbock 79409.

Renal Disease: The Kidney Foundation of Houston and the Greater Gulf Coast will present a symposium, "Management of Renal Disease—1973," by the faculties of Baylor College of Medicine and The University of Texas Nov. 9-10 at the Marriott Motor Hotel, Houston. Morning programs will be devoted to detailed presentation of clinically important topics in kidney and electrolyte problems. In the afternoon, there will be several small group workshops with special programs for dietitians and dialysis nurses and technicians. Contact: Dr. G. Eknoyan, Assoc. Professor of Medicine, Baylor College of Medicine, Texas Medical Center, Houston 77025.

DECEMBER

Cardiology: A clinical cardiology symposium will be sponsored by The University of Texas Health Science Center at Houston at St. Joseph Hospital, Houston, Dec. 3-6. The course is accredited by the AAFP and will use case presentations and lectures as teaching methods. Contact: Dr. Grant Taylor, Dean, Division of Continuing Education, The University of Texas Health Science Center at Houston, PO Box 20367, Houston 77025.

El Paso Psychiatric Clinic

A Community Mental Health Facility

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Directed toward the total rehabilitation of the psychiatric patient by provision of the following services:

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PRESCRIBING INFORMATION

Antiminth (pyrantel pamoate) Oral Suspension

Actions. Antiminth (pyrantel pamoate) has demonstrated anthelmintic activity against *Enterobius vermicularis* (pinworm) and *Ascaris lumbricoides* (roundworm). The anthelmintic action is probably due to the neuromuscular blocking property of the drug.

Antiminth is partially absorbed after an oral dose. Plasma levels of unchanged drug are low. Peak levels (0.05-0.13μg/ml.) are reached in 1-3 hours. Quantities greater than 50% of administered drug are excreted in feces as the unchanged form, whereas only 7% or less of the dose is found in urine as the unchanged form of the drug and its metabolites.

Indications. For the treatment of ascariasis (roundworm infection) and enterobiasis (pinworm infection).

Warnings. *Usage in Pregnancy:* Reproduction studies have been performed in animals and there was no evidence of propensity for harm to the fetus. The relevance to the human is not known.

There is no experience in pregnant women who have received this drug.

Precautions. Minor transient elevations of SGOT have occurred in a small percentage of patients. Therefore, this drug should be used with caution in patients with pre-existing liver dysfunction.

Adverse Reactions. The most frequently encountered adverse reactions are related to the gastrointestinal system.

Gastrointestinal and hepatic reactions: anorexia, nausea, vomiting, gastralgia, abdominal cramps, diarrhea and tenesmus, transient elevation of SGOT.

CNS reactions: headache, dizziness, drowsiness, and insomnia. Skin reactions: rashes.

Dosage and Administration. *Children and Adults:* Antiminth Oral Suspension (50 mg. of pyrantel base/ml.) should be administered in a single dose of 11 mg. of pyrantel base per kg. of body weight (or 5 mg./lb.); maximum total dose 1 gram. This corresponds to a simplified dosage regimen of 1 cc. of Antiminth per 10 lb. of body weight. (One teaspoonful = 5 cc.)

Antiminth (pyrantel pamoate) Oral Suspension may be administered without regard to ingestion of food or time of day; and purging is not necessary prior to, during, or after therapy. It may be taken with milk or fruit juices. Because of limited data on repeated doses, no recommendations can be made.

How Supplied. Antiminth is available as a pleasant tasting caramel-flavored suspension which contains the equivalent of 50 mg. pyrantel base per ml., supplied in 60 cc. bottles.

ROERIG Pfizer

A division of Pfizer Pharmaceuticals
New York, New York 10017

Clean sweep

with a single dose of Antiminth (pyrantel pamoate) ORAL SUSPENSION

Highly effective against pinworm and roundworm

Non-staining to teeth or oral mucosa on ingestion, to stools, clothing, linen

Simple dosage with a single-dose regimen: 1 cc. per 10-lb. body weight (1 tsp./50 lb.; maximum dose, 4 tsp.)

Well-tolerated, based on clinical studies*

Pleasant-tasting, easy-to-take, caramel-flavored oral suspension

Economical, because one prescription can treat the entire family

ROERIG Pfizer
A division of Pfizer Pharmaceuticals
New York, New York 10017

ANTIMINTH®
(pyrantel pamoate)

equivalent to 50 mg. pyrantel/ml.

ORAL SUSPENSION

While Antiminth is highly effective against pinworms and roundworms, the illustration is not meant to imply 100% efficacy.

*Data on file at Roerig.

Please see prescribing information on facing page.

POWELL & HYDE Sts.
513

If he's making the rounds of San Francisco...

Antivert®/25 (25 mg. meclizine HCl) for vertigo*

Antivert® (meclizine HCl) has been found useful in the management of vertigo associated with diseases affecting the vestibular system. It is available as Antivert (12.5 mg. meclizine HCl) and Antivert/25 (25 mg. meclizine HCl) scored tablets for convenience and flexibility of dosage. Antivert/25 (25 mg. meclizine HCl) Chewable Tablets are available for the management of nausea, vomiting, and dizziness associated with motion sickness.

*INDICATIONS. Based on a review of this drug by the National Academy of Sciences-National Research Council and/or other information, FDA has classified the indications as follows:

Effective: Management of nausea and vomiting and dizziness associated with motion sickness.

Possibly Effective: Management of vertigo associated with diseases affecting the vestibular system.

Final classification of the less than effective indications requires further investigation.

CONTRAINDICATIONS. Administration of Antivert during pregnancy or to women who may become pregnant is contraindicated in view of the teratogenic effect of the drug in rats.

The administration of meclizine to pregnant rats during the 12th-15th day of gestation has produced cleft palate in the offspring. Limited studies using doses of over 100 mg./kg./day in rabbits and 10 mg./kg./day in pigs and monkeys did not show cleft palate. Congeners of meclizine have caused cleft palate in species other than the rat.

Meclizine HCl is contraindicated in individuals who have shown a previous hypersensitivity to it.

WARNINGS. Since drowsiness may, on occasion, occur with use of this drug, patients should be warned of this possibility and cautioned against driving a car or operating dangerous machinery.

Usage in Children: Clinical studies establishing safety and effectiveness in children have not been done; therefore, usage is not recommended in the pediatric age group.

Usage in Pregnancy: See "Contraindications."

ADVERSE REACTIONS. Drowsiness, dry mouth and, on rare occasions, blurred vision have been reported.

ROERIG Pfizer
A division of Pfizer Pharmaceuticals
New York, New York 10017

Information for authors

Material for *Texas Medicine* may be sent to the Managing Editor, 1801 North Lamar Blvd., Austin 78701. It must be offered solely to this journal. Each paper is reviewed by a consultant specialist and an editorial board, and is accepted or rejected on the basis of its individual merit and the availability of other material.

Manuscripts should be typed double-spaced with ample margins on firm paper. Carbons are unacceptable, but the author should keep a copy.

The *title* should include the words most suitable for indexing the article in "Index Medicus," should stress the main point, and should be brief. Subtitles should not be connected grammatically with the main title.

The *author's names* and degrees should follow the title, and their mailing addresses should be listed at the end of the article.

The *text* should be narrative with complete sentences, *few abbreviations*, and logical subheading. For *spelling and usage* the editors follow "Dorland's Illustrated Medical Dictionary," 24th edition, and "Webster's Third New International Dictionary, Unabridged." *Quotations* must give credit to both author and source. A concise *introductory summary* is required.

Reference lists should contain in this order (1) author's last name, initials, (2) title of article or book, (3) name of journal, (4) volume and inclusive page numbers, written 33:156-160, (5) year. For books, the title should be followed by place of publication, name of publisher, and year.

Illustrations should be black and white drawings or positive photographs, with neat, uniform, fairly large lettering. A label pasted to the back of each illustration should indicate its number, top, author's name, and title of article in brief. *Legends* should be in complete sentences, numbered, and typed on a separate sheet. *Color illustrations* are authorized if they are of special value.

Tables should be typed on separate sheets. Column headings should show points of similarity; side headings, points of difference.

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Contributions to the news section should be sent to the Editorial Offices, 1801 N. Lamar Blvd., Austin 78701, by the 5th of the month preceding the month of publication.

PUBLICATION INFORMATION

Texas Medicine is published monthly by the Texas Medical Association.

Contributions, previously unpublished, are welcomed for review. News and other items should be sent to the Editorial Offices by the 5th of the month preceding the month of publication. All contributions are sent at the owner's risk.

Scientific Articles are reviewed by technical and specialist consultants and are selected for publication in Texas Medicine by the Scientific Publication Committee, which is appointed by the Board of Publication. Editorials and other articles are subject to review by officers of the Texas Medical Association, appropriate expert and technical consultants, and representatives of county medical societies when in their purview.

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What's on your patient's face...

may be more important than his chief complaint

Patient P.T.* seen on 3/29/67 shows typical lesions of moderately severe keratoses. Note residual scarring on ridge of nose from previous cryosurgical and electrosurgical procedures.

Patient P.T.* seen on 6/12/67, seven weeks after discontinuation of 5% FU cream. Reaction has subsided. Residual scarring not seen except that due to prior surgery. Inflammation has cleared and face is clear of keratotic lesions.

*Data on file, Hoffmann-La Roche Inc., Nutley, N.J

The lesions on his face are solar/actinic— so-called "senile" keratoses... and they may be premalignant.

Solar, actinic or senile keratoses

These lesions may be called by several names, but they usually can be identified by the following characteristics. The typical lesion is flat or slightly elevated, of a brownish or reddish color, papular, dry, rough, adherent and sharply defined. They commonly occur as multiple lesions, chiefly on the exposed portions of the skin.

Sequence of therapy— selectivity of response

After several days of therapy with Efudex® (fluorouracil), erythema may begin to appear in the area of the lesions; this reaction usually reaches its height of unsightliness and discomfort within two weeks, declining after discontinuation of therapy. This reaction occurs in affected areas. Since the response is so predictable, lesions that do not respond should be biopsied.

Acceptable results

Treatment with Efudex provides highly favorable cosmetic results. Incidence of scarring is low. This is particularly important with multiple facial lesions. Efudex should be applied with care near the eyes, nose and mouth.

Before prescribing, please consult complete product information, a summary of which follows:

Indications: Multiple actinic or solar keratoses.

Contraindications: Patients with known hypersensitivity to any of its components.

Warnings: If occlusive dressing used, may increase inflammatory reactions in adjacent normal skin. Avoid prolonged exposure to ultraviolet rays. Safe use in pregnancy not established.

Precautions: If applied with fingers, wash hands immediately. Apply with care near eyes, nose and mouth. Lesions failing to respond or recurring should be biopsied.

Adverse Reactions: Local—pain, pruritus, hyperpigmentation and burning at application site most frequent; also dermatitis, scarring, soreness and tenderness. Also reported—insomnia, stomatitis, suppuration, scaling, swelling, irritability, medicinal taste, photosensitivity, lacrimation, leukocytosis, thrombocytopenia, toxic granulation and eosinophilia.

Dosage and Administration: Apply sufficient quantity to cover lesion twice daily with nonmetal applicator or suitable glove. Usual duration of therapy is 2 to 4 weeks.

How Supplied: Solution, 10-ml drop dispensers—containing 2% or 5% fluorouracil on a weight/weight basis, compounded with propylene glycol, tris(hydroxymethyl)-aminomethane, hydroxypropyl cellulose, parabens (methyl and propyl) and disodium edetate.

Cream, 25-Gm tubes—containing 5% fluorouracil in a vanishing cream base consisting of white petrolatum, stearyl alcohol, propylene glycol, polysorbate 60 and parabens (methyl and propyl).

ROCHE

Roche Laboratories
Division of Hoffmann-La Roche Inc.
Nutley, N.J. 07110

This patient's lesions were resolved with Efudex® fluorouracil/Roche®

5% cream/solution...a Roche exclusive

Pinworm therapy is often a family affair

Contraindications: History of hypersensitivity to thiabendazole.
Warnings: If hypersensitivity reactions occur, drug should be discontinued immediately and not resumed. Rarely, erythema multiforme has been associated with thiabendazole therapy; in severe cases (Stevens-Johnson syndrome), fatalities have occurred. Because CNS side effects may occur quite frequently, activities requiring mental alertness should be avoided. Safe use in pregnancy or lactation has not been established.
Precautions: Ideally, supportive therapy is indicated for anemic, dehydrated, or malnourished patients prior to initiation of anthelmintic therapy. In presence of hepatic or renal dysfunction, patients should be carefully monitored.
Adverse Reactions: Most frequently encountered are anorexia, nausea, vomiting, and dizziness. Less frequently, diarrhea, epigastric distress, pruritus, weariness, drowsiness, giddiness, and headache have occurred. Rarely, tinnitus, hyperirritability, numbness, abnormal sensation in eyes, blurring of vision, xanthopsia; hypotension, collapse; enuresis; transient rise in cephalin flocculation and SGOT; perianal rash, cholestasis and parenchymal liver damage; hyperglycemia; transient leukopenia; malodor of the urine, crystalluria, hematuria; appearance of live Ascaris in the mouth and nose. Hypersensitivity reactions

Chewable Tablets 500 mg Mintezol®
(THIABENDAZOLE | MSD)

so easy to take everyone in the family can keep to the regimen you prescribe

include: fever, facial flush, chills, conjunctival injection, angioedema, anaphylaxis, skin rashes, erythema multiforme (including Stevens-Johnson syndrome), and lymphadenopathy.
Supplied: Chewable tablets, containing 500 mg thiabendazole, in boxes of 36, strip packaged, individually foil wrapped; Suspension, containing 500 mg thiabendazole per 5 ml, in bottles of 120 ml.

For more detailed information, consult your MSD representative or see full prescribing information. Merck Sharp & Dohme, Division of Merck & Co., INC., West Point, Pa. 19486

MSD MERCK SHARP & DOHME

addendum

INDICATION | DOSAGE SCHEDULE

MINTEZOL® (Thiabendazole, MSD) has demonstrated effectiveness against a broad spectrum of nematode infections. Dosages are weight related. For your convenience, the information in the weight-dose chart below is included in the full prescribing information and in the 1973 edition of PDR.
The recommended maximum daily dose of MINTEZOL is 3 g (6 tablets).
MINTEZOL should be given after meals if possible. Dietary restriction, complementary medications, and cleansing enemas are not needed.
The usual dosage schedule for all conditions is two doses per day. The size of the dose is determined by the patient's weight.

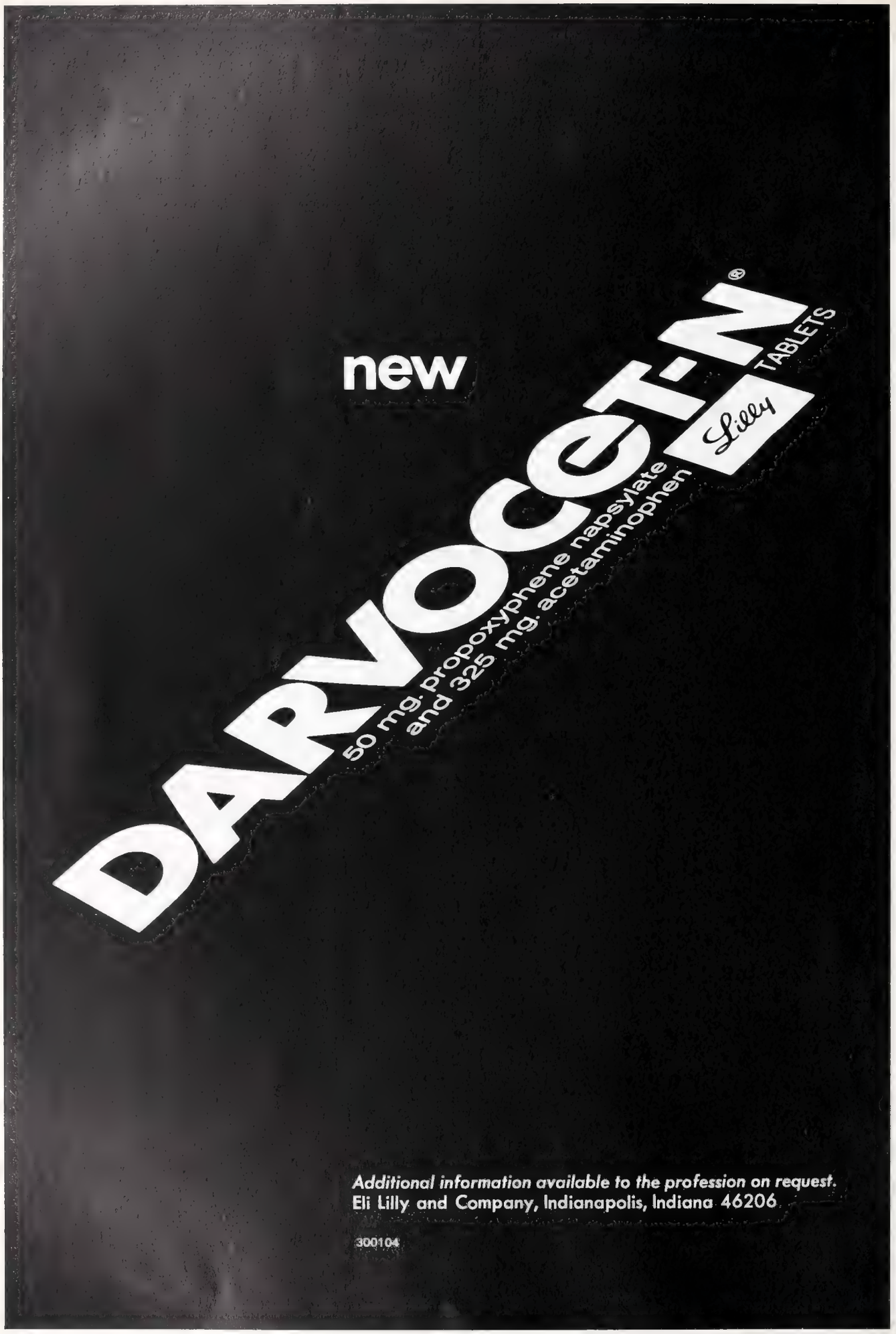
Weight-dose chart:

WEIGHT (lb)	EACH DOSE (g)	TABLETS
25	0.25	½
50	0.5	1
75	0.75	1½
100	1.0	2
125	1.25	2½
150 & over	1.5	3

The regimen for each indication follows:

INDICATION	REGIMEN	COMMENTS
Pinworm disease	Two doses per day for 1 day. Repeat in 7 days. This regimen is designed to reduce the risk of reinfection.	If this is not practical, give 2 doses per day for 2 successive days.
Threadworm,* large roundworm,* hookworm,* and whipworm* disease	Two doses per day for 2 successive days.	A single dose of 20 mg/lb or 50 mg/kg may be employed as an alternative schedule, but a higher incidence of side effects should be expected.
Creeping eruption	Two doses per day for 2 successive days.	If active lesions are still present 2 days after completion of therapy, a second course is recommended.
Symptoms of trichinosis* during the invasive phase of the disease	Two doses per day for 2 to 4 successive days according to the response of the patient.	The optimal dosage for the treatment of trichinosis has not been established.

*Clinical experience with thiabendazole for treatment of each of these conditions in children weighing less than 30 lb has been limited.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300104

Management of alleged sexual assault

Jack H. McCubbin, MD; Daniel E. Scott, MD

The woman who reports sexual assault presents unique problems. The examining physician inherits the full medicolegal burden of treatment and proper collection of evidence. This article presents an examination and treatment program which is based on the protocol presently in use at Dallas' Parkland Memorial Hospital. Adequate evidence must be collected and documented. The treatment regimen has five goals: repair of any injury, tetanus immunization, prevention of pregnancy, prevention of venereal disease, and prevention of serious emotional sequelae.

The woman who reports sexual assault presents a medicolegal challenge which demands astute examination and treatment with special emphasis on proper collection of evidence.

Many Texas counties do not have a medical examiner. In his absence, the full medicolegal burden rests with the examining physician. The problem is encountered infrequently by the average practitioner, and on occasion, the victim is neglected. This article is intended as a guide to an inclusive examination and treatment program. The suggestions are based on the protocol presently used at Dallas' Parkland Memorial Hospital.*

Definitions

Rape is the most common sexual assault against women. Three elements constitute its definition: carnal knowledge, force, and commission without consent.[4] Carnal knowledge is the slightest penile penetration of the *labia minora*. Hymenal penetration or ejaculation is not a requirement.

Force is the use of strength, threat, or coercion. A woman may be incapable of giving consent if she is mentally deficient, psychotic, or has an altered state of consciousness (alcohol, psychotrophic drugs, sleep, illness, etc).

Each state designates a minimal age at which a woman may consent to coitus. Statutory rape is carnal knowledge of a woman before the age of consent. In Texas this age is 18. This age may be lowered if "previous unchaste character" can be proved.

Sodomy is a common law crime encompassing many so-called unnatural sexual acts. Sexual molestation is often used to designate forced sexual acts other than coitus.

Preexamination Considerations

Immediately inform the appropriate law enforcement agency if their representative is not in attendance. The geographical area in which the offense is said to have occurred determines which law enforcement agency has jurisdiction. City officers are called if the offense is within city limits; county officers are called for county offenses. The Texas Highway Patrol can be called for out-of-county allegations. If they do not have jurisdiction they can help summon proper authorities.

The alleged victim should be triaged ahead of nonemergent patients. Written and witnessed consent must be obtained before examination, collection of specimens, release of information to authorities, and photographs (if taken).

A female chaperon should be present (record her name). The date and time of the alleged assault, date and time of examination, attending law officer's name and badge number should also be recorded.

The chain of evidence must be proper.

*Copies of the Parkland "Check List" protocol are available from the authors on request.

All evidence should be given directly to the laboratory investigator. At Parkland Hospital the examining gynecologist places the collected evidence in a box and locks the box inside a metal cabinet in the Emergency Room. Only the ER charge nurse and the forensic pathology laboratory representative have keys. The evidence box is collected by a representative of the medical examiner's department. Preferably, the laboratory investigator would be present at the examination and receive the evidence then. If a technician(s) acts as an agent, all material should be receipted.

Subjective Data

During the investigation and subsequent court proceedings, previously "insignificant" data may acquire importance. The physician is never expected to state whether the crime of rape has occurred. Rape is *not* a diagnosis; it is a matter of jurisprudence. If the word rape is recorded, use the preface "alleged" or "suspected." False charges of sexual assault are not uncommon. It is the physician's responsibility to conduct his examination in such a manner that the objectively acquired evidence could be protective of either real victims of rape or of a falsely accused defendant. Documentation of the following facts, affirmative or negative, is imperative at initial examination.

Record the patient's complaint as a direct quote. State her age, gravidity, and parity. If she is parous, include the date of termination of her last pregnancy.

Record the age of onset of patient's menses (menarche), and the date of her last menses. If the last menses was not normal, then describe any abnormality. If appropriate, describe any symptoms of pregnancy.

When was the patient's most recent coitus prior to the alleged assault? Include the date, time, and whether or not a condom was used. Describe any current mode of contraception. If the patient states that she was a virgin prior to the alleged assault, state wether or not vaginal tampons are used and whether or not douching is practiced. Record the time of the most recent episode of douching.

Ask three questions regarding the alleged assault: Did the assailant's penis penetrate the vulva? Did the assailant experience orgasm? Did the assailant wear a condom?

Since the alleged assault has the patient (a) douched? (b) bathed or showered? (c) defecated? or (d) urinated?

Describe any present illness, present medication, or any known drug allergy of the patient. If she has had a venereal disease (past or present) describe the therapy, if any. Any history of emotional illness or mental deficiency should be included. Record any previous vaginal surgical procedures.

In the 24 hours prior to the alleged assault did the patient use alcohol or illicit drugs? Include the date, time, and amount used. If she is also a habitual abuser, describe the extent of her habit.

Physical Examination

The patient's general appearance should be described, including her emotional state and any apparent influence of alcohol or other drugs.

Examine the clothing and describe the style. Look for stains, tears, missing buttons, dirt, gravel, grass, leaves, etc. Examine the skin for bruises, scratches, lacerations, rope imprints, tooth imprints, pressure imprints, and point tenderness.

The mouth and perioral regions may have bruises, bites, and lacerations. The fingernails may be broken or have material beneath the nails. The pubic hair may be matted or there may be foreign hair mixed with the patient's pubic hair.

Examine the vulva for evidence of bruises, lacerations, hematoma, or tenderness. It is exceedingly important to examine the hymen. A sketch of the perineum and introitus is recommended.

Do not use a lubricant for the speculum exam. Describe the vaginal mucosa and vaginal secretions. After bimanual examination, describe the cervix, uterus, adnexa, and rectovaginal region and any evidence of trauma or other abnormalities. In small children in whom the hymen is intact, a medicine dropper may be introduced gently into the vestibule. An aspirate of vaginal secretions may be obtained. If visualization of the vagina is indicated, pediatric patients will usually require general anesthesia. Various instruments which may be used include: nasal speculums, specially-designed vaginoscopes, cystoscopes, miniature panendoscopes, and "virginal" bivalve speculums. A good light source is imperative.

Collection of Evidence

Each item of evidence should be labeled. Each label should have patient's name, hospital identification number, date and time of collection, collector's name, and anatomic source of specimen. Enos, Mann, and Dolan describe the creation of a "rape box" which houses all the equipment necessary for collecting and storing evidence.[3] It is easy to follow their protocol or to adapt an appropriate modification.

Obtain the following:

1. Two tubes of clotted blood (one for serologic test for syphilis, one to hold for possible future use).
2. Scrape and trim fingernails into envelope.
3. Comb pubic hair into small envelope. (Male and female hair can be differentiated in the laboratory.)
4. If any pubic hairs are matted, cut and place in an envelope.
5. Any loose hair or dried blood on the victim should be collected in an envelope.
6. Examine a saline wet mount of vaginal contents and cervical mucus for sperm. Are sperm present? Are they motile?
7. Prepare four dry slides of vaginal contents and place in ether-alcohol fixative (same technique as with Papanicolaou smear). If vagina is dry, wash with 3.0 cc of normal saline and prepare slides from the washing.
8. Collect vaginal aspirate or washings into test tube for acid phosphatase determination.
9. Do cervical culture for *N gonorrhea.*
10. Place wet cotton swab (wet with vaginal secretions) into dry test tube. This is for semen typing (ABO antigens).
11. If indicated: urine for pregnancy test; wet prep, dry preps, and culture from mouth or rectum; urine for urinalysis if bladder trauma is suspected; x-ray (if fracture, dislocation, etc are suspected); photographs of visible trauma.

Treatment

The treatment regimen has five goals: repair of any injury, tetanus immunization, prevention of pregnancy, prevention of venereal disease, and prevention of serious emotional sequelae.

Serious hemorrhage necessitates control and resuscitation of any volume or

O B ASSOCIATES

5323 Harry Hines Boulevard
Dallas, Texas 75235
ME 1-3220

MEDICAL REPORT
Suspected Rape

Police Case Service No. _____ Police Jurisdiction _____

Name of Patient _____ EOR# _____

Admitted Parkland Emergency Room: Date _____ Time _____

Name of Police Official with Patient _____ Badge No. _____

AUTHORIZATION FOR COLLECTION OF EVIDENCE AND RELEASE OF INFORMATION

I hereby authorize Parkland Hospital and O. B. Associates to collect any blood, urine, tissue, or other specimen needed and to supply copies of ALL medical reports including any laboratory reports, immediately upon completion, to the Police Dept. and the Office of the District Attorney having jurisdiction.

Person Examined _____

Address _____

Date _____ Parent or Guardian _____

Witness _____ Address _____

CONSENT FORMS COMPLETED?

Physical Examination (EOR Form): Yes[ ] No[ ]
Collection of Evidence and Release of Information: Yes[ ] No[ ]
Obtain Photographs: Yes[ ] No[ ]

(Above information to be obtained by admitting nurse)

ASSAULT COMPLAINT:

_____ Date _____ Examiner's Signature, M.D.

(Page 1 of 7 Pages)

CONTINUATION OF ASSAULT COMPLAINT:

_____ Date _____ Examiner's Signature, M.D.

(Page 2 of 7 Pages)

I HISTORY.

1. Age:
2. Gravidity: Parity:
3. Date of termination of last pregnancy:
4. Age of menarche:
5. Date of last menses:
6. Last menses normal: Yes[ ] No[ ] If [No], Describe:
7. Patient known to be pregnant: Yes[ ] No[ ]
8. Symptoms of pregnancy: Yes[ ] No[ ]
   If yes, Describe:
9. Most recent coitus prior to alleged assault:
   Date _____ Time _____ Condom Used? Yes[ ] No[ ]
10. Current mode of contraception (prior to alleged assault):
11. Patient states she is(was) virgin prior to assault: Yes[ ] No[ ]
12. Vaginal tampons used: Yes[ ] No[ ] Age begun _____
13. Douching practiced: Yes[ ] No[ ] Most recent _____
14. During alleged assault:
    - Did penis penetrate vulva Yes[ ] No[ ]
    - Assailant experience orgasm Yes[ ] No[ ]
    - Assailant wear condom Yes[ ] No[ ]
15. Since alleged assault has patient:
    - douched Yes[ ] No[ ]
    - bathed or showered Yes[ ] No[ ]
    - defecated Yes[ ] No[ ]
    - urinated Yes[ ] No[ ]

_____ Date _____ Examiner's Signature, M.D.

(Page 3 of 7 Pages)

16. Has patient knowledge of:
    - any present illness Yes[ ] No[ ]
    - any present medication Yes[ ] No[ ]
    - any drug allergy Yes[ ] No[ ]
17. Has patient had a venereal disease (past or present)
    Yes[ ] No[ ] Describe therapy.
18. History of emotional illness: Yes[ ] No[ ]
    Describe.
19. Previous vaginal surgical procedures: Yes[ ] No[ ]
    Describe.
20. In 24 hours prior to alleged assault did patient use alcohol or illicit drugs
    Yes[ ] No[ ].
    Describe date, time, and amount of ingestion; frequency of use; duration of use; usual amount of intake.

_____ Date _____ Examiner's Signature, M.D.

(Page 4 of 7 Pages)

PHYSICAL EXAMINATION

1. B.P._____Pulse _____Temp _____Wt ____ ____Ht._____
2. General Appearance:
3. Emotional Status:
4. Clothing: Stains? Yes[ ] No[ ]; Foreign Material? Yes[ ] No[ ]; Describe.
5. Body Surface: Bruises? Yes[ ] No[ ]; Scratches? Yes[ ] No[ ]; Lacerations? Yes[ ] No[ ]; Describe.
6. Mouth:
7. Fingernails:
8. Pubic Hair:
9. Vulva:
10. Hymen:
11. Vagina (No Lubricant!)
12. Cervix:
13. Uterus:

_____ _____, M.D.
Date Examiner's Signature

(Page 5 of 7 Pages)

14. Adnexa:
15. Recto-Vaginal:
16. Sketch of perineal findings: (Label all positive findings)

_____ _____, M.D.
Date Examiner's Signature

(Page 6 of 7 Pages)

COLLECTION OF EVIDENCE:

1. Two tubes of clotted blood--labeled. (1. to Serology; 2. to Forensic Path Lab)
2. Scrape and trim fingernails into envelope and label.
3. Comb and collect free pubic hair into envelope and label.
4. Cut off and label a few pubic hair into separate envelope and label
5. Collect any loose hair or dried blood and label (site collected).
6. Examine a saline wet mount for sperm: Present? Yes[ ] No[ ]; Motile? Yes[ ] No[ ]
7. Prepare 4 dry slides of vaginal contents or saline washing and place in fixative.
8. Do cervical culture for N. gonorrhea.
9. Place wet cotton swab (wet with vaginal secretions) in dry test tube (semen typing).
10. If indicated:
    --Urine for pregnosticon Yes[ ] No[ ]
    --Wet & dry preps from mouth Yes[ ] No[ ]
    --Urine for urinalysis if bladder trauma Yes[ ] No[ ]
    --X-rays obtained (indicated because of trauma) Yes[ ] No[ ]
    --Photographs Yes[ ] No[ ]

IMPRESSION:

RECOMMENDATIONS:
Drugs:

Appointments:

I HEREBY CERTIFY THAT THIS IS A TRUE AND CORRECT COPY OF THE OFFICIAL OFFICE AND OR HOSPITAL RECORDS CONCERNING THE EXAMINATION OF THE ABOVE NAMED PATIENT

_____ _____, M.D.
Date Examiner's Signature

Results of laboratory procedures:

	Date	Results
1. Preg. test	_____	_____
2. Serology	_____	_____
3. N. Gonorrhea Culture	_____	_____

(Page 7 of 7 Pages)

blood deficit. An experienced gynecological surgeon should be summoned if extensive laceration is suspected.

If the skin is broken, insure tetanus immunization. Most minor trauma is relieved by cold compresses, elevation of hips, and mild analgesia.

Post-coital prevention of pregnancy should be attempted in victims of childbearing age who are likely fertile and who do not have contraceptive protection. Most Parkland physicians prescribe diethylstilbestrol, 25 mg orally twice daily for five days. Because of the problem with nausea, an antiemetic of choice is of benefit prophylactically.

Prophylaxis against venereal disease is important. If the patient is not allergic to penicillin, a satisfactory adult regimen is 1 gm of Benemid orally followed in 30 minutes by 4.8 million units of procaine penicillin intramuscularly. Observe the patient an additional 30 minutes for possible hypersensitivity reaction. If the patient is allergic to penicillin, a satisfactory gonorrhea prophylaxis is tetracycline HCl, 1.5 gm initially, followed by 0.5 gm orally four times daily for 4 days.[12] The proper dosage of the appropriate medication for children must be calculated according to the patient's weight.

Any emotional disturbance sufficient to require consideration of sedative medication warrants the offer of psychiatric help at the time of initial examination.

Follow-up Program

The patient is encouraged to return to her physician or call the Emergency Room for any problem which *to her* would merit prompt attention. Emotional evaluation, support, and counseling should be readily available. Injuries requiring special therapy (sutures, etc) require individual follow-up. In the absence of special problems, the patient is next seen two weeks following the assault. At that time, the patient is reexamined. The results of the gonorrhea culture and serologic test for syphilis will be available. The culture for gonorrhea should be repeated if the initial culture was positive. Success of the anticonception therapy can be evaluated. If the patient has not had a bleeding episode within a week following completion of estrogen therapy, consider and discuss uterine curettement. Adequately counsel the patient in any matter of concern. Again, offer further emotional support and psychiatric help if indicated. Public health nurses can be of benefit. Hayman and associates report that the patients and their families are most receptive if the nurses make their initial contact at a time when emotional support is especially needed, ideally within two or three days after the alleged assault.[6]

At one month and three months following the assault, continue ongoing counseling. This is especially important for pediatric-age rape victims. Obtain at least one repeat serologic test for syphilis.

References

1. ACOG Technical Bulletin, No. 14 (July) 1970.
2. Breen JL, Greenwald E, Gregori CA: The molested young female. Pediatr Clin N Amer 19:717-724, 1972.
3. Enos WF, Mann GT, Dolan WD: A laboratory procedure for the identification of semen. Amer J Clin Pathol 39:316-320, 1963.
4. Evrard JR: Rape: the medical, social, and legal implications. Amer J Obstet Gynec 111:197-199, 1971.
5. Feegel JR: Synopsis of rape for the Florida examiner. J Fla Med Assoc 56:729-730, 1969.
6. Kuchera LK: Post-coital contraception with diethylstilbestrol. JAMA 218:562-563, 1971.
7. Hayman CR, Lewis FR, Steward WF: A public health program for sexually assaulted females. Public Health Reps 82:497-504, 1967.
8. Massey JB, Garcia CR, Emich JP, Jr: Management of sexually assaulted females. Obstet Gynec 38:29-36, 1971.
9. Peters JJ: Child rape: defusing a psychological time bomb. Hosp Physician pp 46-49 (Feb) 1973.
10. Schiff AF: Examining the sexual assault victim. J Fla Med Assoc 56:731-739, 1969.
11. Sutherland S, Scherl DS: Patterns of response among victims of rape. Amer J Orthopsychiat 40:503-511, 1970.
12. Communicable Disease Center, Venereal Diseases Branch, Recommended Treatment Schedule for Gonorrhea, Interim Copy, (March) 1972.

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Vaginal approach in resection of low-lying malignant rectal lesions

Alejandro F. Castro, MD

In treating low-lying lesions of the rectum, preserving anal continence is a goal which is second only to saving the patient's life from cancer.

Several time-tested methods have resulted in the cure as well as the comfort of the patient, the most valuable one being the anterior resection. A prerequisite to its success is that the distal edge of the cancer be located not closer than 10 cm from the anal margin.

It is better to allow 4, or best, 5 cm, of apparently normal mucosa distal to the gross evidence of the tumor. This entails abdominoperineal resection of the anal canal and its sphincters (Miles operation) in lesions located in the rectum with the lower edge growing at or near the 5 cm level.

Tumors with their lower borders between the 6 cm and 9 cm level have been removed by several methods based on preservation of the anal sphincters. The Babcock-Bacon pull-through, the Swenson operation, the Black endo-anal procedure, and the Kraske sacral approach and others are well known and give satisfactory results in properly chosen cases. To this list I have added the vaginal approach for resection of low-lying cancers of the rectum. I have used the Kraske procedure satisfactorily, and probably it is my method of choice when I cannot do an anterior resection and an abdominoperineal resection is not necessary. Two factors stand out in favor of the vaginal over the Kraske approach when the choice is between these two procedures. First, the patient can be in the lithotomy position for the abdominal as well as the perineal phase, and second, it is not necessary to remove any bone during the dissection. The vaginal approach is contraindicated in patients with senile vaginal changes which leave insufficient room to carry out the procedure.

In reviewing the literature of surgical procedures performed for low-lying rectal lesions, I have found only one reference to the vaginal approach for anastomosis in bowel surgery. This was on page 278 of *The Rectum,* by Sir Charles Ball, published in 1908 by the Oxford University Press.

In 1963 I operated on a 20-year-old woman for the removal of the rectum and rectosigmoid. This section of bowel was congenitally deprived of adequate nerve supply (as seen in a typical case of Hirschsprung's disease). The patient had a midsigmoid colostomy which had been present for several years. A low rectovaginal fistula also had been present for some time, but was of little or no problem to the patient because of the colostomy.

In studying the possible surgical approaches, it was obvious that in order to anastomose the sigmoid to the lower rectum and obtain a satisfactory result it would be necessary to resect that part of the anterior wall of the rectum involved in the rectovaginal fistula. The fistula was located 1.5 cm above the mucocutaneous line and went directly through the posterior vaginal wall.

The patient was prepared for a two-team procedure. After freeing the lower bowel and rectum down to the upper surface of the levator ani as for a low anterior resection, the sigmoid was divided above the narrow rectosigmoid. The perineal part of the dissection was started by a horizontal incision in the posterior wall of the vagina at the level of the rectovaginal fistula. The fistula was freed and the lower rectum divided just below the fistula, thus excising the fistula. The sigmoid was brought down and through the posterior vaginal wall and an anastomosis between the open ends of the sigmoid and lower rectum was ac-

1. Six cases of proctosigmoidectomy and sigmoidorectal anastomosis using the posterior vaginal approach.

No.	Case	Date	Age	Follow-up
1	Hirschsprung's disease	1963	20	4 years
2	Cancer	1964	68	Living and well, 1972
3	Villous tumor	1964	76	Died 1968 (CVA)
4	Diverticulitis	1965	48	Living and well, 1972
5	Cancer*	1966	42	Living and well, 1972
6	Cancer*	1969	44	Living and well, 1973
7	Cancer†	1972	52	Living and well, 1973

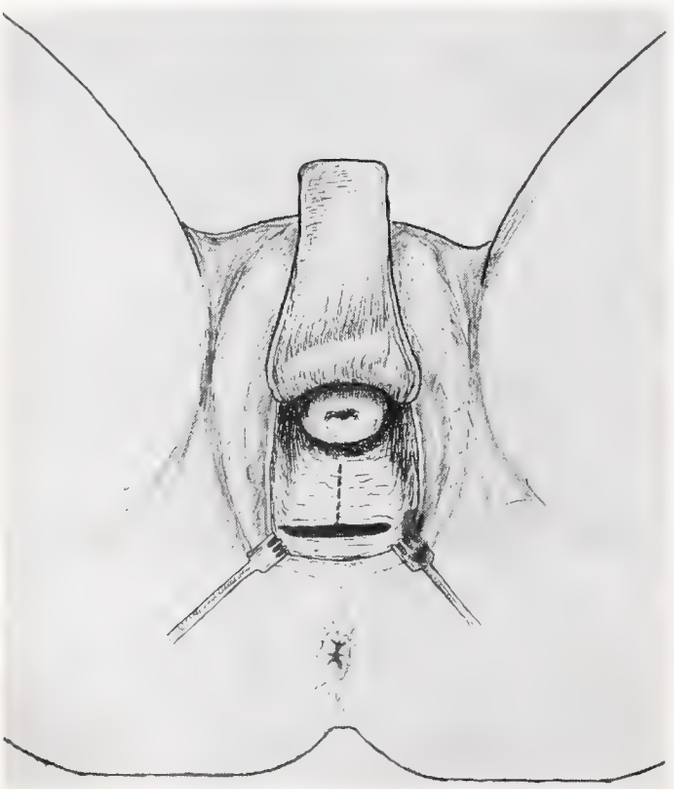
*Rectovaginal fistula
†Colostomy

complished through the posterior vaginal wound without great technical difficulty.

Since that time, six other patients have undergone a proctosigmoidectomy and sigmoidorectal anastomosis using the posterior vaginal approach (Fig 1). A single team of surgeons was used in most of these cases. In three cases it was necessary to make an inverted T incision in the posterior vaginal wall to improve exposure. In each case the sigmoid was easily brought through the vaginal opening and anastomosed with the remaining short rectal end. The presacral space was drained through the abdominal incision in some cases.

Conditions treated via this approach were the original case of Hirschsprung's disease, diverticulitis of the entire left colon and half the rectum, a giant villous adenoma of the midrectum, and four cases of carcinoma of the midrectal ampulla; the last one was in December 1972.

2. Vaginal incision.



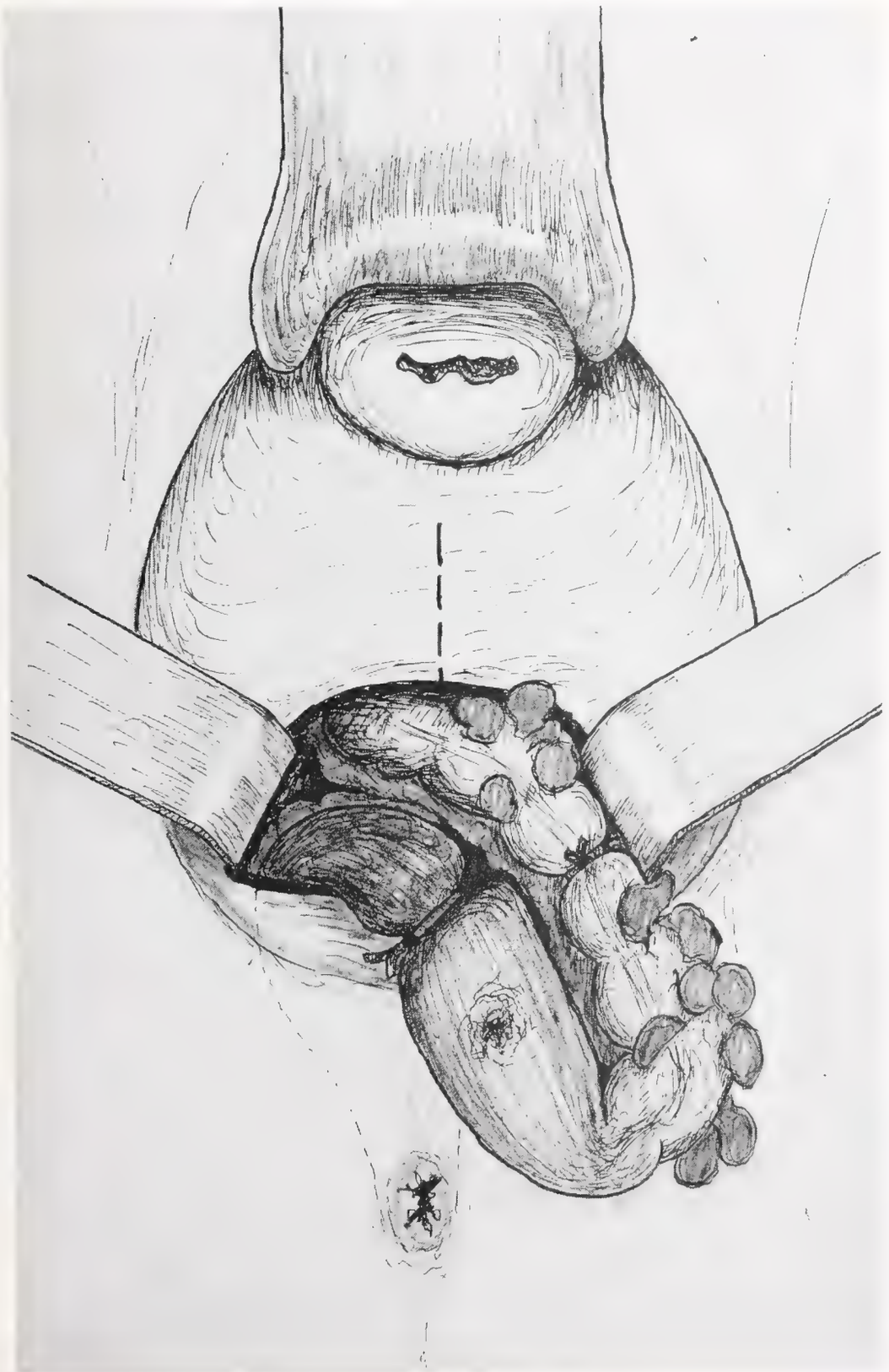
Procedure

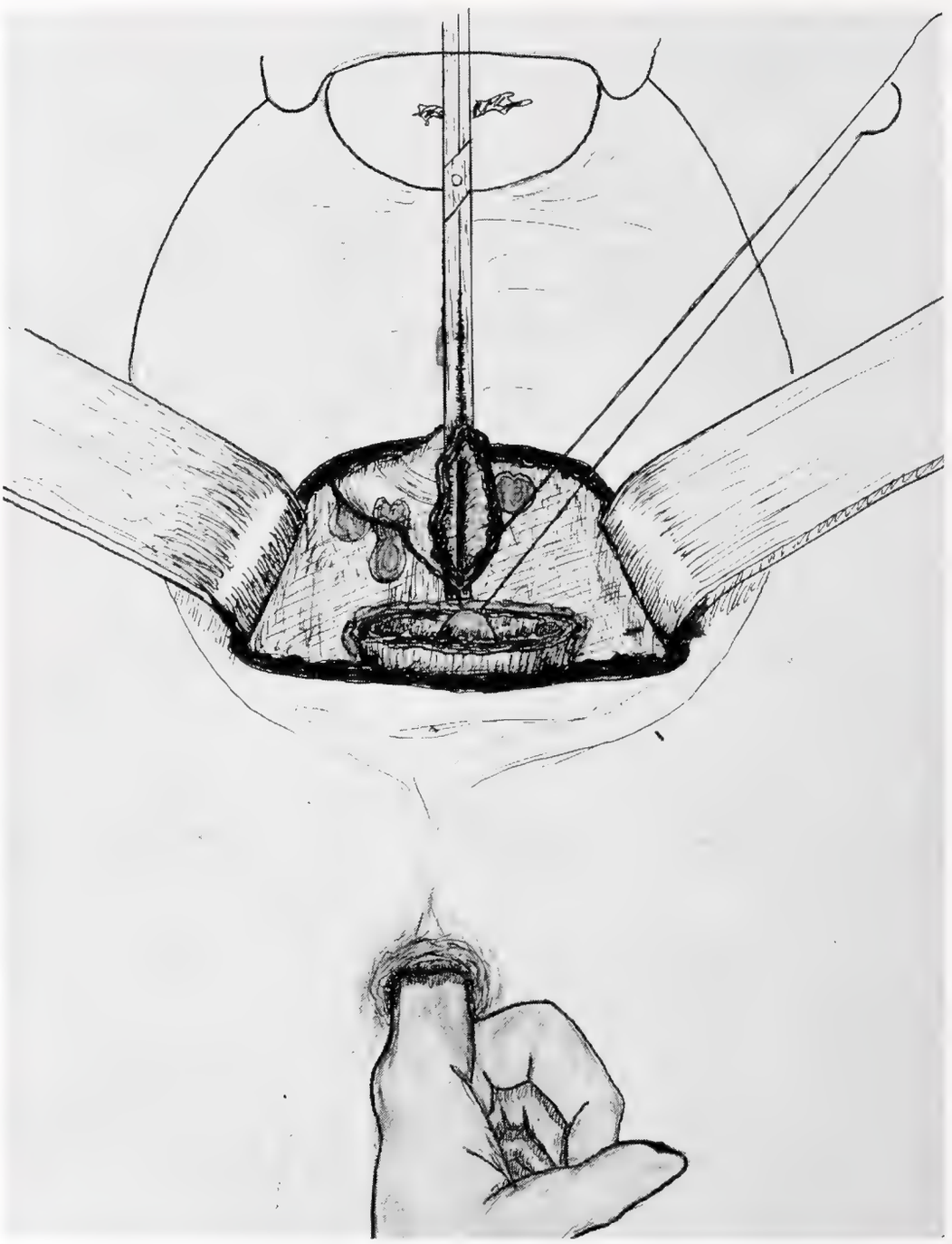
With the patient in the lithotomy position, the abdomen is explored through a left paramedian incision. Dissection is carried out as for an anterior resection or the abdominal phase of the combined abdominoperineal resection. The bowel proximal to the tumor is closed by a tied umbilical tape. It is impossible to ligate the rectum distal to the tumor in the abdominal phase of the resection; this is accomplished through the vaginal wound.

When resectability is established, an inverted T incision (Fig 2) is made through the posterior vaginal wall and the rectum is freed from its attachments above the levator ani muscles. A ligature is placed obliterating the rectal lumen distal to the tumor. The bowel to be resected is freed from its attachments and delivered through the vaginal wound (Fig 3). Division of the proximal sigmoid and rectal stump is now done at the proper levels. The anus is dilated and the anorectal stump is washed with saline for any desquamated cancer cells that may be present. An anastomosis is then carried out between the open ends of the bowel (Fig 4). Five 0 monofilament interrupted wire sutures are used to approximate the seromuscular layers. Chromic 000 catgut is used in the mucosal layer (Fig 5). The vaginal wound is then closed with interrupted chromic 0 catgut. The abdominal wound is then closed. A two-team approach will expedite the operation and results in an easier procedure.

It is important not to jeopardize the surgical principles of resection of rectal cancers. The possibility of manual spread of cancer cells should be minimized as

3. The rectum and sigmoid may be excised abdominally or brought out through the vaginal opening and divided to allow sufficient length of colon to prevent tension at the suture line.





4. Detail of anastomosis; 5-0 atraumatic monofilament wire is used for the interrupted seromuscular layer. Triple 0 chromic catgut is used for the mucosal and submucosal continuous stitch.

much as possible. Adequate blood supply to the anastomosis and lack of tension at the suture line are essential.

The complications encountered using the vaginal approach were a rectovaginal fistula in two cases and a transient stricture in one case. The latter responded to dilation and was not a serious problem.

In all these cases a certain amount of continence was established early in the postoperative period, but it was not considered normal or close to normal by the patient until three or four months had elapsed. Soiling and frequent small stools were prevalent during the first few weeks of the postoperative period. This is partly caused by transient loss of the normal feeling of evacuation and the reduced caliber of the now terminal bowel.

Results and Follow-up

In the first six cases, colostomies were not done. The first four patients did well without it; the next two each developed a rectovaginal fistula during the immediate postoperative period and ultimately a colostomy and repair of the fistula were required. Both healed well and have no further trouble. The seventh patient had a colostomy performed simultaneously with the resection, and this was closed three months after the initial operation.

Six of these patients are living and well. There have been no recurrences of the resected cancers, and there has been a return to normal or almost normal bowel habits in all instances.

This procedure has not been used in many cases. Seven cases in ten years is certainly a small number considering that more than 400 major bowel operations using other approaches were done during the same time. Nevertheless, any surgical approach that may save the anal sphincteric mechanism without jeopardizing the cure of a patient with a rectal cancer should be considered.

Extremely low anastomosis in anterior resections is quite difficult and tends to disrupt in a number of cases. The posterior sacral approach has been used successfully in some of these cases. It is hoped that the posterior vaginal approach will also help in selected cases of proctosigmoidectomy.

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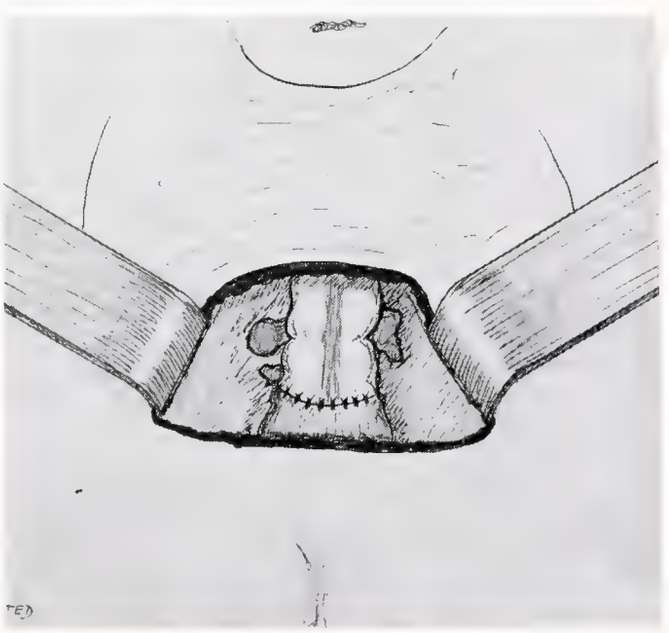
5. Anastomosis completed.



Pheochromocytoma simulating toxemia of pregnancy

Benny Ray Cleveland, MD; Jim Lawhon, MD; Paul J. Cunningham, MD

A pheochromocytoma was present during pregnancy, initially causing hypertension which was considered to result from toxemia of pregnancy. Following delivery the patient continued to have hypertension in spite of medical treatment, prompting complete work-up and establishing the correct diagnosis. A discussion is given concerning the diagnosis and surgical management of this tumor.

Pheochromocytomas are relatively rare, but interesting, tumors. Correct diagnosis depends upon a high index of suspicion in cases that present only minimally suggestive signs and symptoms. This article briefly comments on the nature and diagnosis of pheochromocytoma, and presents a case history of a patient recently diagnosed and subsequently operated upon for removal of a pheochromocytoma. This patient represents only one of eight seen in Galveston County Hospitals from 1961 to 1970 (Fig 1).

Pheochromocytomas are tumors of chromaffin tissue, and 20% are related to the adrenal glands. The main secretions are norepinephrine and epinephrine. The tumors can occur at any age and are commonest between ages 20 and 45. Bilateral tumors are present in 10-20% of cases. The incidence of malignancy is difficult to ascertain, because many are multicentric in origin. The diagnosis of malignancy must rest on a histologic appearance plus metastatic tumor growing in nonchromaffin tissues. With this criteria, the incidence of malignancy is nearly 6%.[1] Tumors originating in the adrenals cause an increase in the urinary output of epinephrine and norepinephrine, while those originating in the paraganglia contain norepinephrine primarily. The differentiation in location may be made on this basis. There are two enzymatic mechanisms of deactivation for catecholamines, the most important of which is catechol-o-methyl transferase. The other enzyme is monamine oxidase. The end product of both enzymatic actions is vanilmandelic acid (VMA). The measurement of the urinary excretion of the catecholamines or their breakdown products is the most reliable means of diagnosing pheochromocytomas.[2]

The patient, a 23-year-old married white woman, was admitted to Galveston County Memorial Hospital on Jan 7, 1970, because of uncontrolled hypertension for four months. The patient had been noted to have hypertension in October of 1969, two weeks prior to a normal term delivery. Apresoline was prescribed, and this medication was continued until the patient had a normal delivery. In the hospital, she had proteinuria (4+) and normal creatinine clearance. At that time, it was the impression that the patient had severe toxemia of pregnancy. After discharge she took Apresoline with a maximum dose of 80 mg per day, but her blood pressure never reached normal.

Prior to final admission, her blood pressure was 140/95 mm Hg and she was taking Apresoline, 80 mg/day. A workup for hypertension was begun. The next day she had blurred vision with the left eye. Funduscopic examination showed retinal arteriolar spasm and early exudation. The blood pressure was 240/140 mm Hg at this time, and she was admitted to the hospital. Her only symptoms were insomnia, nervousness, and excessive perspiration.

Examination at this time revealed a blood pressure of 200/120 mm Hg. She appeared to be anxious and tense. There was arteriolar narrowing and spasm, as

well as early exudation of the macula of the left eye. The thyroid was not enlarged. The lungs were clear and heart size slightly increased. There was a grade 2-6 systolic murmur at the apex and a faint atrial gallop. The liver, spleen, and kidneys were not palpable. There were no abdominal bruits and no costovertebral tenderness. Peripheral pulses were equal. There was no edema and results of neurological examination were within normal limits.

Laboratory studies revealed that the complete blood count was normal, and urinalysis showed proteinuria (3-4+) with elevated red and white blood cell counts. The VDRL was negative. The electrolytes, blood urea nitrogen, and serum creatinine values were all within normal limits. Urine culture showed greater than 10^5 *Escherichia coli*. The glucose tolerance curve was of diabetic configuration. Serum protein electrophoresis was normal, but the 24-hour protein value was only 599 mg. Electrocardiogram revealed anterolateral ischemia. The chest x-ray and intravenous pyelogram with 50% Hypaque urea washout were all within normal limits. Laboratory values were: catecholamines, 1,060 μg/24 hours (normal 5-150); VMA, 10.5 mg/24 hours (normal 1-7); metanephrine, 2.2 mg/24 hours (normal 1.0 mg). During a Regitine blocking test, the diastolic blood pressure was lowered to 100 mm Hg. The nephrotomogram demonstrated a tumor just above the renal pelvis (Fig 2).

Catheterization of the superior vena cava was performed, and the measurements were taken at all levels of the inferior vena cava. There was a high level of norepinephrine at the left adrenal vein

1. Patients with pheochromocytoma seen at The University of Texas Medical Branch, 1961-1970.

Case	Year	Age	Race	Sex	Site	Surgery	Initial BP	Other information	Follow-up
1	61	56	W	F	L adrenal	Yes	250/130	Headache, palpitation	Good postoperative recovery
2	61	55	W	F	L adrenal	Yes	150/100	P=132, vomit, anorexia	Died 24 hours postoperatively, shock
3	61-65	10	W	F	R-L adrenals	Yes	190/120	Perspiration, felt hot, tumor found L adrenal 5 years after tumor found in R adrenal	Good postoperative recovery
4	61	55	W	M	?	No	178/106	Dizziness, positive Regitine reaction, urine catecholamines	Dismissed on antihypertensive medication
5	63	54	W	M	R renal superior pole	No	240/160	Chest pain, sweating	Dismissed on antihypertensive medication
6	63	49	C	F	L adrenal	Yes	114/64	Headache, vomiting, pain in L side, occasional flushing	Good postoperative recovery
7	70	28	C	F	L adrenal	Yes	172/124	Positive Regitine reaction	Good postoperative recovery

Galveston County Memorial Hospital: Case presented in article St. Mary's Hospital: None

2. Nephrotomogram of an intravenous pyelogram shows the tumor just above the renal pelvis.

area. During the patient's hospital evaluation, the elevated blood pressure was at first thought to be due to chronic glomerulonephritis or lupus nephritis. Apresoline was stopped and Ismelin begun. There was a paradoxical response in that the blood pressure was not controlled and showed wide swings. Aldomet produced the same results. After the VMA and catecholamines levels were known, the patient was thought to have a pheochromocytoma. The diastolic pressure dropped to 100 mm Hg. Medication with Dibenzyline was started, and the dosage was increased to 20 mg every 12 hours. The patient's blood pressure then returned to normal. Because of the results of adrenal vein catheterization and norepinphrine levels, surgery was recommended. The left adrenal gland and an associated large pheochromocytoma (3.8 by 3 by 2.5 cm) were removed (Fig 3).

During the operation, the patient's blood pressure reached high levels on three occasions, and nineteen 5-mg vials of Regitine were given by infusion. After surgery the blood pressure was normal and the patient's postoperative course was uneventful. Several times during her recovery she did have pyuria, low-grade fever, and a positive urine culture. Antibiotics were used with satisfactory response on these occasions.

The patient was discharged from the hospital in good condition and was normotensive. Follow-up examination one year after operation (Jan 18, 1971) revealed the patient to be in good health with occasional headache relieved by Anacin. Her blood pressure was as follows: right arm, 118/70 mm Hg supine, 118/70 mm Hg sitting, and 118/68 mm Hg with exercise.

The management of pheochromocytomas may be considered in three phases:

(1) evaluation and control of clinical manifestations, (2) operation and anesthesia, and (3) postoperative management. The most significant events in the diagnosis and management of patients with these chromaffin tumors has been accurate and rapid methods of determining urinary derivatives of substances produced by the tumors, and the discovery of blocking agents which directly neutralize these substances as they enter the blood stream.[3] Careful monitoring of arterial and central venous pressures during surgery and during the first 24 hours postoperatively have contributed greatly to reduced morbidity and mortality.

3. Gross specimen of tumor taken from left suprarenal gland.

References

1. Steinwald OP, Doolas A, Southwick HW: Pheochromocytoma. Surg Clin N Amer 49:87-98, 1969.
2. Glenn F, Mannix H: The surgical management of chromaffin tumors. Ann Surg 167:619-629, 1968.
3. Scott HW, Riddell DH, and Brockman SK: Surgical management of pheochromocytoma. Surg Gynec Obstet 120:702-724, 1965.

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Rondomycin®
(methacycline HCl)

CONTRAINDICATIONS: Hypersensitivity to any of the tetracyclines.
WARNINGS: Tetracycline usage during tooth development (last half of pregnancy to eight years) may cause permanent tooth discoloration (yellow-gray-brown), which is more common during long-term use but has occurred after repeated short-term courses. Enamel hypoplasia has also been reported. **Tetracyclines should not be used in this age group unless other drugs are not likely to be effective or are contraindicated.**
Usage in pregnancy. (See above **WARNINGS** about use during tooth development.)
Animal studies indicate that tetracyclines cross the placenta and can be toxic to the developing fetus (often related to retardation of skeletal development). Embryotoxicity has also been noted in animals treated early in pregnancy.
Usage in newborns, infants, and children. (See above **WARNINGS** about use during tooth development.)
All tetracyclines form a stable calcium complex in any bone-forming tissue. A decrease in fibula growth rate observed in prematures given oral tetracycline 25 mg/kg every 6 hours was reversible when drug was discontinued.
Tetracyclines are present in milk of lactating women taking tetracyclines.
To avoid excess systemic accumulation and liver toxicity in patients with impaired renal function, reduce usual total dosage and, if therapy is prolonged, consider serum level determinations of drug. The anti-anabolic action of tetracyclines may increase BUN. While not a problem in normal renal function, in patients with significantly impaired function, higher tetracycline serum levels may lead to azotemia, hyperphosphatemia, and acidosis.
Photosensitivity manifested by exaggerated sunburn reaction has occurred with tetracyclines. Patients apt to be exposed to direct sunlight or ultraviolet light should be so advised, and treatment should be discontinued at first evidence of skin erythema.
PRECAUTIONS: If superinfection occurs due to overgrowth of nonsusceptible organisms, including fungi, discontinue antibiotic and start appropriate therapy.
In venereal disease, when coexistent syphilis is suspected, perform darkfield examination before therapy, and serologically test for syphilis monthly for at least four months.
Tetracyclines have been shown to depress plasma prothrombin activity; patients on anticoagulant therapy may require downward adjustment of their anticoagulant dosage.
In long-term therapy, perform periodic organ system evaluations (including blood, renal, hepatic).
Treat all Group A beta-hemolytic streptococcal infections for at least 10 days.
Since bacteriostatic drugs may interfere with the bactericidal action of penicillin, avoid giving tetracycline with penicillin.
ADVERSE REACTIONS: Gastrointestinal (oral and parenteral forms): anorexia, nausea, vomiting, diarrhea, glossitis, dysphagia, enterocolitis, inflammatory lesions (with monilial overgrowth) in the anogenital region.
Skin: maculopapular and erythematous rashes; exfoliative dermatitis (uncommon). Photosensitivity is discussed above (See **WARNINGS**).
Renal toxicity: rise in BUN, apparently dose related (See **WARNINGS**).
Hypersensitivity: urticaria, angioneurotic edema, anaphylaxis, anaphylactoid purpura, pericarditis, exacerbation of systemic lupus erythematosus.
Bulging fontanels, reported in young infants after full therapeutic dosage, have disappeared rapidly when drug was discontinued.
Blood: hemolytic anemia, thrombocytopenia, neutropenia, eosinophilia.
Over prolonged periods, tetracyclines have been reported to produce brown-black microscopic discoloration of thyroid glands; no abnormalities of thyroid function studies are known to occur.
USUAL DOSAGE: Adults—600 mg daily, divided into two or four equally spaced doses. More severe infections: an initial dose of 300 mg followed by 150 mg every six hours or 300 mg every 12 hours. Gonorrhea: In uncomplicated gonorrhea, when penicillin is contraindicated, 'Rondomycin' (methacycline HCl) may be used for treating both males and females in the following clinical dosage schedule: 900 mg initially, followed by 300 mg q.i.d. for a total of 5.4 grams.
For treatment of syphilis, when penicillin is contraindicated, a total of 18 to 24 grams of 'Rondomycin' (methacycline HCl) in equally divided doses over a period of 10-15 days should be given. Close follow-up, including laboratory tests, is recommended.
Eaton Agent pneumonia: 900 mg daily for six days.
Children—3 to 6 mg/lb/day divided into two to four equally spaced doses.
Therapy should be continued for at least 24-48 hours after symptoms and fever have subsided.
Concomitant therapy: Antacids containing aluminum, calcium or magnesium impair absorption and are contraindicated. Food and some dairy products also interfere. Give drug one hour before or two hours after meals. Pediatric oral dosage forms should not be given with milk formulas and should be given at least one hour prior to feeding.
In patients with renal impairment (see **WARNINGS**), total dosage should be decreased by reducing recommended individual doses or by extending time intervals between doses.
In streptococcal infections, a therapeutic dose should be given for at least 10 days.
SUPPLIED: 'Rondomycin' (methacycline HCl): 150 mg and 300 mg capsules; syrup containing 75 mg/5 cc methacycline HCl.

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Review of 65 cases

Penetrating wounds of the rectum

B. D. Allen, MD

The clinical course of 65 patients who sustained high-velocity missile wounds of the rectum as the result of the conflict in Vietnam is reviewed. All patients were resuscitated and received their initial care in Vietnam, and were then air evacuated to an offshore facility in Japan for further postoperative care and convalescence. Certain aspects of initial care which need to be emphasized became apparent in reviewing the morbidity and mortality of this type of wound. Three aspects of treatment are paramount if recovery is to be expected: (1) adequate debridement and posterior dependent drainage, (2) evacuation of the distal rectal segment of all retained fecal material, and (3) construction of a diverting colostomy which separates the proximal and distal stomas.

Penetrating wounds of the rectum are among the most serious and challenging injuries seen by a surgeon. Unfortunately, wounds of the rectum frequently are associated with multiple other organ injuries, most notably small bowel, bladder, and urethra. The high mortality associated with this wound is invariably related to sepsis and hemorrhage. A death rate exceeding 20% still persists today in both civilian[1,2] and military[3,4] casualties. In addition, there is an extremely high rate of associated morbidity with prolonged hospitalization.

Experience gained in treating 65 casualties from Vietnam form the basis for this report. The injuries all were the result of high-velocity missiles, and in no way resembled the usual civilian rectal wound. Failure to construct a proper colostomy and failure to remove all fecal material from the distal rectal segment were important factors in the production of sepsis. Failure to appreciate the magnitude of the injury or the concomitant associated organ injury accounted for significant morbidity.

The purpose of this report is to present the results of treatment of patients with true diverting colostomies and those with loop colostomies. Current concepts used in the successful management of these high velocity missile injuries to the rectum will be reviewed.

Materials and Methods

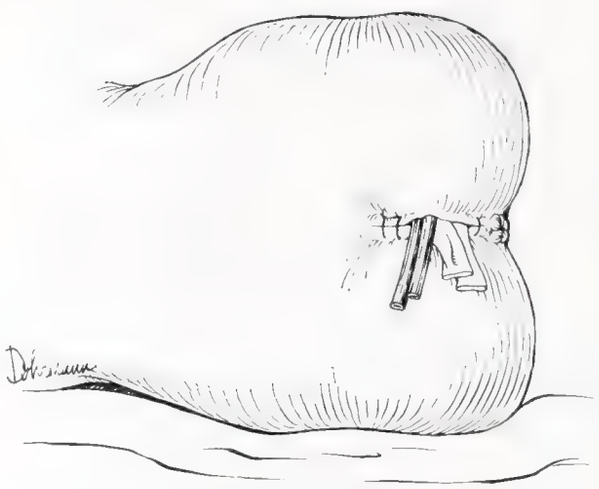
All patients with rectal wounds admitted to the 106th General Hospital in Yokohama, Japan, from January 1967 through September 1969 were studied. All casualties were the result of the Vietnam conflict. All wounds were caused by high-velocity missiles, either bullets, fragments from land mines, or rockets. The average age of the patients was 21.3 years. All patients received their initial treatment in Vietnam and the majority of patients had serious associated injuries in addition to the rectal wound. The surgeons who initiated care frequently described severe hemorrhage requiring large quantities of transfused blood.

This series is biased in that it is a select group who survived the initial injury long enough to be evacuated to Japan from Vietnam. No attempt is made to discuss mortality, as the majority of the deaths were screened from the series in Vietnam.

Rectal trauma was suspected in all patients with wounds of the lower abdomen, buttocks, perineum, upper thigh, or sacrum. All patients with suspected rectal trauma were examined digitally and with a sigmoidoscope. Blood in the rectum without obvious higher bowel perforation was considered proof of rectal perforation. Early in the series, treatment was primarily directed toward proximal colostomy, pre-

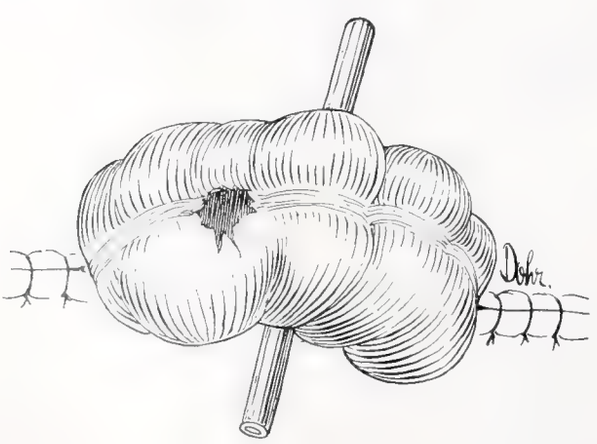
Fractured pelvis	26
Small bowel	23
Major nerve	15
Bladder	14
Urethra	13
Major vascular	11
Other colon	4
Spinal cord	1
Miscellaneous	17

1. Associated major injuries occurring with rectal wounds.



2. Posterior dependent drainage of rectal area.

3. Loop colostomy.



sacral drainage, and repair of the perforation. A Foley catheter was inserted into all patients and hematuria signaled an indication for an excretory urogram, a cystogram, or direct passage of retrograde ureteral catheters. Failure to recognize urinary tract injuries or failure to adequately divert the urinary stream accounted for a considerable number of complications in these patients.

The severity of the rectal wounds was primarily related to the multiplicity of organ injury. High-velocity gunshot wounds uniformly cause more severe injury and a greater multiplicity of organ injury than a lower-velocity missile injury. Fig 1 shows the major injuries associated with rectal wounds. Fractured pelvis with indriven bone fragments, small-bowel perforation, major nerve damage, bladder, urethra, and major vascular injuries accounted for the majority of associated injuries.

Drainage was accomplished by the placement of soft rubber drains in the presacral space either through a perineal drainage incision or through a posterior Kratzky incision, with or without coccygectomy (Fig 2). This was frequently done under direct vision while the abdomen was open. At the same time the distal rectal segment was irrigated to remove all retained fecal material. The rectal wound was closed when practical.

A proximal colostomy was then performed. Two types of colostomy were used: (1) a loop colostomy which was constructed by bringing a segment of colon out through an abdominal incision and placing a piece of rubber tubing beneath it (Fig 3), or (2) an end colostomy with a distal mucous fistula to allow placement of an appliance over the proximal stoma (Fig 4). All casualties received appropriate supportive therapy including replacement of fluid deficits and blood loss, antibiotics, and tetanus prophylaxis.

After their conditions had sufficiently stabilized patients were evacuated to an offshore facility in Japan.

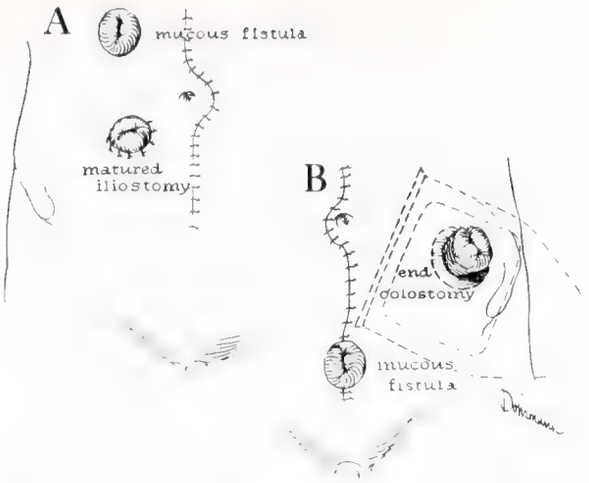
Results

The type of colostomy performed in the

treatment of patients with rectal wounds appears to have made a significant difference. Fig 5 lists the comparison of morbidity of the two different colostomy procedures.

There were 0.5 complications per patient with diverting procedures and 1.7 complications per patient with loop procedures. This was manifest by a 29% complication rate for the former and a 47% complication rate for the latter. The average hospital stay in Japan was 32 days and 40 days, respectively. The average amount of blood transfused was 7,100 ml and 13,000 ml, respectively. Those patients with diverting colostomies required 1.5 surgical procedues, while those with loop colostomies required 2.7 procedures—almost twice as many. There were no deaths in the group with diverting colostomies.

A comparison of the two treatment methods with reference to complications is shown in Fig 6. Stool per anus, which we considered a complication, was 50% greater with loop colostomy and indicated both failure to clean out the distal segment and failure to divert the fecal stream adequately. Colocutaneous fistula, pelvic abscess, retroperitoneal abscess, osteomye-

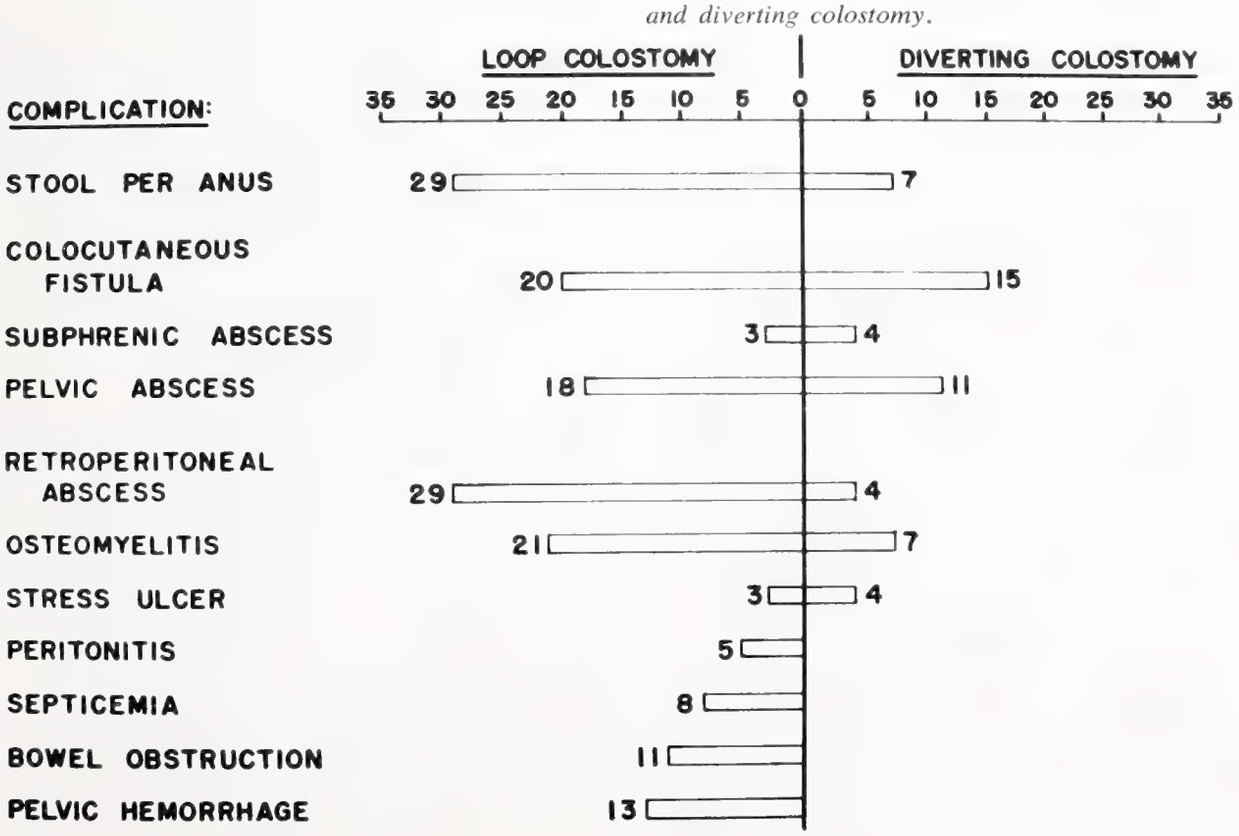


4. Diverting double barrel colostomy which allows placement of appliance over proximal stoma.

5. Comparison of morbidity and mortality between diverting colostomy and loop colostomy.

	Diverting Colostomy 27	Loop Colostomy 38
Average number of complications per patient	0.5	1.7
Complication rate	29%	47%
Average days in hospital	32	40
Average amount transfused	7,100	13,000
Average number of surgical procedures	1.5	2.7
Mortality rate	0%	5.5%
Average number associated major injuries	1.7	1.8
Percent incidence GSW	70%	55%

6. Complications associated with loop colostomy and diverting colostomy.



litis, peritonitis, septicemia, bowel obstruction, and delayed pelvic hemorrhage were more common with loop procedures. Only subphrenic abscess and stress ulceration were more frequent in the group with diverting colostomies. Undoubtedly the increased frequency of complications in those patients with loop procedures is related to a failure to control sepsis. Every case of pelvic hemorrhage seen in the series was associated with uncontrolled infection.

Discussion and Comments

Treatment of rectal wounds has become fairly well standardized since World War II. Since it was impossible to exteriorize a rectal injury, surgeons early in World War II accepted the concept of diversion of the fecal stream with posterior presacral drainage.[5]

The means used to divert the fecal stream have varied widely. Colcock[6] advocated the double-barrel Mikulicz colostomy in 1946. He criticized the loop colostomy as failing to keep feces out of the distal segment and away from the perforation. Poer[7] stated in 1948, "The lesson was finally learned that complete diversion of these portions of the large bowel (the extraperitoneal portion of the colon and rectum) was necessary, and it was found that this could be accomplished only by some method which separated the colonic stoma or which closed the opening of the distal loop . . ."

Experience during the Korean campaign served to bolster the confidence of surgeons in the principles learned in World War II.[8] A remarkable decline in colon and rectal injuries was seen from 90% in the Civil and Spanish American Wars to 58% in World War I, 34% in World War II,[5] and 15.9% in the Korean War.[8]

There is a difference between wounds of the rectum reported in civilian practice and the rectal wounds reported in this series. The civilian injury is usually caused by a low-velocity missile such as an enema tip, thermometer, sigmoidoscope, or a fall and resulting impalement. Gunshot wounds are reported but they usually are from smaller hand guns with relatively low muzzle velocity (900-1,500 feet/second). The wounds reported in this series were generally from high-velocity missiles such as the modern infantry rifle or from mortar or land mine fragments with a velocity of 3,000 feet/second. While many civilian injuries can be treated by debridement and primary closure, those due to high-velocity missiles cannot, particularly when there are other serious associated injuries.

A major problem in these patients with pelvic injury is the indriven bone fragments that result from pelvic fractures. Unless these bone fragments are adequately debrided, they form a nidus for chronic infection and pelvic abscess formation. Drainage of a rectal wound through a bony pelvic defect should be avoided since it condemns the patient to osteomyelitis with a chronic draining sinus tract. Another frequent source of sepsis or continued contamination of the pelvic wound is failure to adequately divert urinary tract injuries. As long as the wound is bathed in urine and fecal material, healing will be delayed and serious life-threatening complications will develop. Frequently cystostomy and occasionally nephrostomy is required to divert the urinary tract.

A major problem in our group of patients was the fact that surgeons did loop colostomies feeling that they had adequately diverted the fecal stream. It was not our experience nor that of Ziperman,[8] Poer,[7] Heaton[9] or Colcock[6] that this adequately diverts the fecal stream. We found that the only effective way to divert the fecal stream was to construct an end colostomy with a distal mucous fistula which allowed placement of an appliance over the proximal stoma. Anything less allows spillover of contaminated stool and mucous.

Lavenson[4] has demonstrated the importance of irrigating the distal rectal segment to free it of all retained fecal material. Patients in our series who underwent loop colostomy frequently did not have the distal segment cleaned out. The colostomy was generally brought out over a piece of rubber tubing as an adjuvant procedure. On the other hand, those who had an end colostomy and distal mucous fistula frequently had the distal segment cleaned out as part

of the primary procedure. Patients who developed any sign of pelvic or intra-abdominal sepsis while in Japan were taken immediately to the operating room where the loop colostomy was converted to one in which the stomas were separated and an appliance could be placed over the proximal one. The distal segment was cleansed and adequate posterior dependent drainage was established. Only when all three of these criteria for treatment were met could recovery be expected.

Conclusion

Based upon our experience with these 65 casualties, we feel that certain aspects in the care of patients with high-velocity missile injury to the rectum deserve emphasis. Any patient with a penetrating injury of the buttocks, upper thigh, lower abdomen, or sacrum should be suspected of having a rectal injury, and adequate examination is mandatory. Adjacent wounds and other concomitant organ injury must be appreciated in order that no wound is overlooked. The urinary stream must be diverted when injury to the bladder and urethra is sustained. Adequate posterior dependent drainage is absolutely necessary. When feasible, the distal rectal segment should be irrigated to remove all retained fecal material. If the rectal wound lends itself to debridement and closure, this should be done, but extensive dissection to expose the wound should be avoided. From our experience, the construction of a truly diverting colostomy which separates the stomas and allows the placement of an appliance over the proximal one is most important. As indicated by our experience a loop colostomy does not adequately divert the fecal stream. All devitalized tissue including bone fragments must be debrided if there is to be any hope of preventing or controlling infection. Occasionally, in massive wounds of the rectum and perineum, an abdominal-perineal resection may be required.

References

1. Vannix RS, Carter R, Hinshaw DB, et al: Surgical management of colon trauma in civilian practice. Amer J Surg 106:364-371, 1963.
2. Wanebo HJ, Hunt TK, Mathewson C Jr: Rectal injuries. J Trauma 9:712-722, 1969.
3. Bowers WF: Surgical treatment in abdominal trauma: a comparison of results in war and peace. Milit Med 118:9, 1946.
4. Lavenson GS, Cohen A: Management rectal injuries. Amer J Surg 122:226-230, 1971.
5. Chunn FC, Harwer RU: Wounds of the colon, rectum. The Medical Dept, United States Army in World War II, Washington, DC, Office of the Surgeon General, Department of the Army 1955, vol 1, General Surgery, Part II: 255-271.
6. Colcock BP: Perforating wounds of the colon and rectum. Amer J Surg 72:343-351, 1946.
7. Poer DH: The management of penetrating abdominal injuries; comparative military and civilian experiences. Ann Surg 127:1092-1102, 1948.
8. Ziperman HH: The management of large bowel injuries in the Korean campaign. US Armed Forces Med J 7:85-91, 1956.
9. Heaton LD, Hughes CW, Rosegay H, et al: Military surgical practices of the US Army in Viet Nam. Curr Prob Surg, 1-59, 1966.

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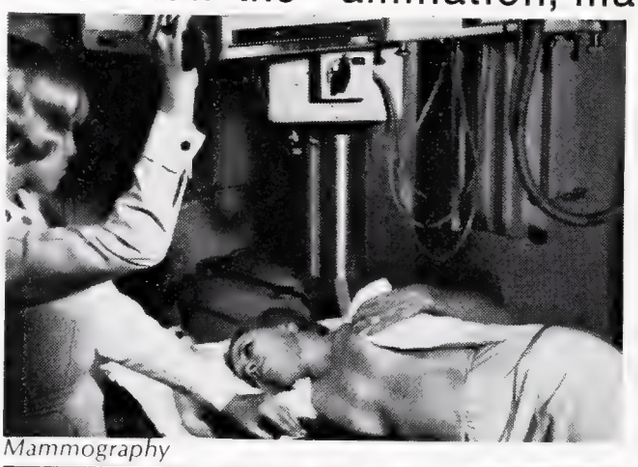
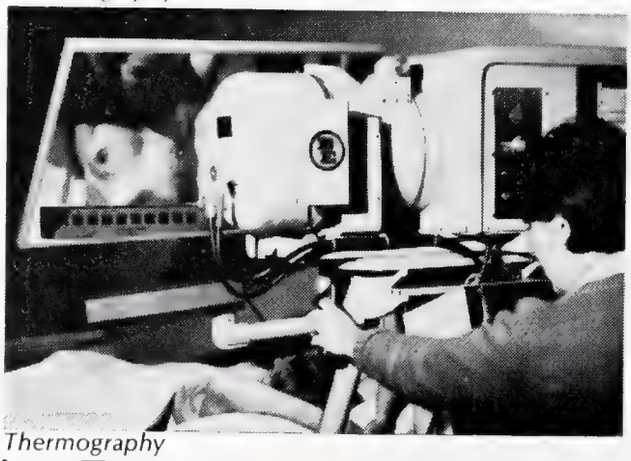
Breast Cancer: earlier warning system

Futility and frustration beset the physician confronted with breast cancer. For the last 35 years, the survival rate has not significantly changed despite intensive educational programs aimed at earlier detection, and improvement in treatment techniques.

What is the outlook? We know the key to reducing mortality from breast cancer is in the *earliest possible* diagnosis. The stage at which breast cancer is detected is *crucial* to the outcome of treatment. By the time a lump is discovered through BSE or clinical examination, critical time may have been lost.



Mammography



Thermography

And we *do* have the means to achieve earlier diagnosis. We do have an *earlier* warning system. Mammography and thermography can detect breast cancer *before* a lump is discernible by palpation. To demonstrate that it is practical and feasible to detect breast cancer earlier by using these modalities, the American Cancer Society and the National Cancer Institute are funding a network of breast cancer demonstration projects. Supported by grants of $2-million from the ACS and $4-million from the NCI, 20 such centers are expected to be operative across the country by the end of the year. Each will screen at no charge, approximately 5,000 women annually, in what is considered to be the ideal detection program—to include clinical examination, mammography and thermography. Each of these detection methods contributes independently to the detection of breast cancer, and none can be dispensed with in the search for early disease.

At present we cannot prevent breast cancer, but the potential for saving more lives is immense. The five-year survival rate surges dramatically from 53% when axillary nodes are positive, to approximately 85% when the disease is localized, to nearly 100% for in-situ cancer.

We have an earlier warning system. Let's use it.

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Fasanella-Servat operation

Harold Beasley, MD

This simple, effective operation for mild ptosis with good levator action was devised and reported by Fasanella and Servat in 1961, and it was slightly modified by Beard in 1969.

It is performed by everting the upper lid so that the upper 3 mm of tarsal plate can be fixed with two curved hemostats (Fig 1). A 5-0 plain catgut suture is placed in serpentine fashion 1 mm above the clamps from the temporal to the nasal aspect of the lid. As the suture is placed, the tissues in the hemostats are incised between the clamps and the suture. The suture is then doubled back from the nasal to the temporal aspect as a running suture approximating the upper border of the tarsal plate and the palpebral conjunctiva (Fig 2). The two ends of the sutures are then brought out through the upper lid temporally above the tarsus and tied just under the skin. A pressure bandage is applied for 24 hours.

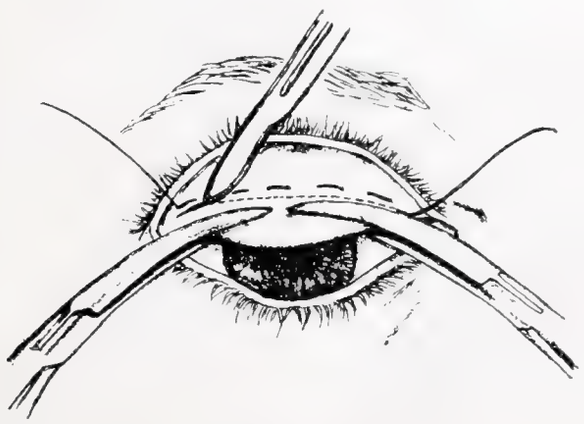
This operation originally was thought to be effective because of a minimal resection of the levator, but it is probably because of a partial tarsectomy, since the levator cannot to be included in the clamps if the lid is everted (Fig 3).

This procedure is indicated in cases of (1) congenital ptosis of 2 mm or less with levator action better than 11 mm; (2) acquired ptosis of not more than 4 mm with levator action better than 10 mm; (3) traumatic ptosis of not more than 3 mm with levator action better 10 mm; (4) Horner's syndrome; (5) Marcus-Gunn syndrome with ptosis; and (6) ptosis after enucleation (Fig 4).

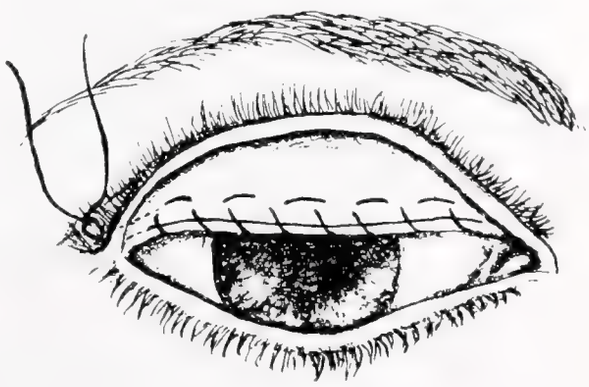
Clinical Cases

This is a report of 16 surgical procedures in 14 patients (Fig 5). Six unilateral cases were congenital, and six cases were acquired. Four of the latter patients had unilateral surgery and two had bilateral surgery. There was also a case of unilateral traumatic ptosis and one associated with Marcus-Gunn syndrome. All the patients were improved with an average correction of 2.4 mm. The patients with acquired cases had an average lid elevation of 2.6 mm and the patients with congenital cases, 2.0 mm. In one acquired case, the levator action was 8 mm before surgery and in all the others the levator action was better than 10 mm. In this one case, the lid was elevated only 1.5 mm. Three lids were raised less than 2 mm; one was in a

1. Placement of clamps and suture in Fasanella-Servat operation.



2. Placement of suture in Fasanella-Servat operation.



3. Anatomy of the everted upper lid. A. Preaponeurotic space. B. Postaponeurotic space.

1. Congenital ptosis of 2 mm or less with levator action better than 11 mm.
2. Acquired ptosis of not more than 4 mm with levator action better than 10 mm.
3. Traumatic ptosis of not more than 3 mm with leva tor action better than 10 mm.
4. Horner's Syndrome.
5. Marcus–Gunn with ptosis.
6. Ptosis after enucleation.

4. Indications for the Fasanella-Servat operation.

Name	Age	Operated Lid	Type of Ptosis	Pre-Op Eyelid Slit (mm) R	L	Post Op Eyelid Slid (mm) R	L	Pre Op Levator Action (mm) R	L
M C	7	Left	Cong	10	[illegible]	10	10	14	13
J G	4	Right	Cong	5	[illegible]	7 5	[illegible]	10	15
M G	12	Left	Cong	10	8	10	10	16	14
B B	15	Left	Cong	11	9	11	11	15	15
P H	9	Left	Cong	10	8	10	10	15	15
W C	24	Left	Cong	10	8	10	9 5	15	15
E S	[illegible]	Right	Trauma	7	10	10	10	15	15
T D	6	Right	Marcus–Gunn	7	10	9	10	11	15
L D P	78	Both	Acquired	3	5	6	7	14	17
H P	83	Right	Acquired	4	5	7	5	12	12
H S	71	Left	Acquired	6	4	6	5	14	14
M B	79	Both	Acquired	5	4	10	8	13	13
G W	65	Right	Acquired	4	6	6	6	15	15
W A M	68	Right	Acquired	4	6	5 5	6	8	12

16 CASES AVERAGE CORRECTION 2 4 mm
6 CONGENITAL AVERAGE 2 0 mm
8 ACQUIRED AVERAGE 2 6 mm

5. Tabulation of patients with ptosis correction by Fasanella-Servat procedure.

congenital case which was corrected to 1.5 mm, and two were in acquired cases in which one was corrected to 1 mm and the other to 1.5 mm. One traumatic case showed a 3 mm elevation and one case of Marcus-Gunn syndrome showed an elevation of 2 mm.

All of these patients were improved, but it must be emphasized that this operation can be used only in the presence of good levator action and minimal ptosis.

Obviously, all minimal ptosis does not require correction but usually, if there is as much as 2 mm, it is a cosmetic blemish. Ptosis surgeons are aware of the required precision in correcting as little as 2 mm of ptosis with a levator resection, and this procedure offers a solution to this problem if there is good levator action.

This is a simple procedure which gives good results with few complications if it is used with the proper indications.

References

1. Fasanella RM, Servat J: Levator resection for minimal ptosis: another simplified operation. Arch Ophthal 65:493-496, 1961.

2. Beard C: Blepharoptosis repair by modified Fasanella-Servat operation. Amer J Ophthal 69:850-857, 1970.

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Warnings: Patients with severe cardiac disease should be given this medication with caution.

Fever and possibly heat stroke may occur due to anhidrosis.

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Adverse Reactions: Varying degrees of drying of salivary secretions may occur as well as mydriasis and blurred vision. In addition the following adverse reactions have been reported: nervousness, drowsiness, dizziness, insomnia, headache, loss of the sense of taste, nausea, vomiting, constipation, impotence and allergic dermatitis.

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Brief Summary

Indications—Placidyl (ethchlorvynol) is indicated as short-term hypnotic therapy in the management of insomnia.

Contraindications—Drug hypersensitivity and porphyria.

Warnings—Not recommended during the first and second trimester of pregnancy. Caution patients of possible combined exaggerated effects with alcohol, barbiturates, tranquilizers or other CNS depressants. Exaggerated effects might result in blurring of vision, paralysis of accommodation and profound hypnosis. Caution patients concerning driving a motor vehicle, operating machinery, or other hazardous operations requiring alertness after taking the drug. ADMINISTER WITH CAUTION TO PATIENTS WITH SUICIDAL TENDENCIES AND DO NOT PRESCRIBE LARGE QUANTITIES OF THE DRUG. Adjustment of the dosage of oral anticoagulants might be necessary when beginning ethchlorvynol therapy, during therapy, or after stopping therapy. This drug is not recommended for use in children. PLACIDYL HAS THE POTENTIAL FOR THE DEVELOPMENT OF PSYCHOLOGICAL AND PHYSICAL DEPENDENCE. INSTANCES OF SEVERE WITHDRAWAL SYMPTOMS, INCLUDING CONVULSIONS AND DELIRIUM CLINICALLY SIMILAR TO THOSE SEEN WITH BARBITURATES, HAVE BEEN REPORTED IN PATIENTS TAKING REGULAR DOSES AS LOW AS 1000 MG. PER DAY OVER A PERIOD OF TIME WHEN THE DRUG WAS SUDDENLY DISCONTINUED. PROLONGED ADMINISTRATION OF THE DRUG IS NOT RECOMMENDED. Addiction-prone patients or those who are likely to increase dosages of the drug on their own initiative should be observed for evidence of signs or symptoms which may indicate possible early withdrawal or abstinence symptoms. Signs and symptoms associated with withdrawal and abstinence include unusual anxiety, tremor, ataxia, slurring of speech, memory loss, perceptual distortions, irritability, agitation and delirium. Other less well defined signs and symptoms, not necessarily due to withdrawal and abstinence, may include anorexia, nausea or vomiting, weakness, dizziness, sweating, muscle twitching and weight loss. Abrupt discontinuance of Placidyl following prolonged overdosage may result in convulsions and delirium.

Precautions—Toxic amblyopia has been reported with long-term continuous use of ethchlorvynol. Permanent visual defects have been observed, although amblyopia has improved after discontinuation of the drug. Drug dosage should be limited for elderly and debilitated patients to the smallest effective amount. If pain is present, this drug should only be given if insomnia persists after pain is controlled with analgesics. Caution is advised in prescribing the drug for patients who are being treated with either MAO inhibitors or antidepressants. Transient delirium has been reported with the combination of Placidyl and amitryptyline. Drug dosage should be reduced if prescribed for patients receiving MAO inhibitors or antidepressants. Caution should be exercised in patients with impaired hepatic or renal function. Patients who respond unpredictably to barbiturates or alcohol, or who exhibit excitement and release of inhibition in association with such agents, may also react in this way to Placidyl. Rarely, patients may exhibit symptoms suggestive of an unusual susceptibility to the drug; such as prolonged hypnosis, profound muscular weakness, excitement, hysteria, or syncope without marked hypotension. Transient giddiness or ataxia may occur.

Adverse Reactions—Hypotension, nausea or vomiting, gastric upset, aftertaste, blurring of vision, dizziness, facial numbness, and allergic reaction typified by urticaria have been reported following Placidyl administration. Mild "hangover" and symptoms of mild excitation have occurred in some patients. There have been rare reports of cholestatic jaundice occurring in patients taking ethchlorvynol. A few cases of thrombocytopenia have been reported in patients receiving ethchlorvynol. 304431

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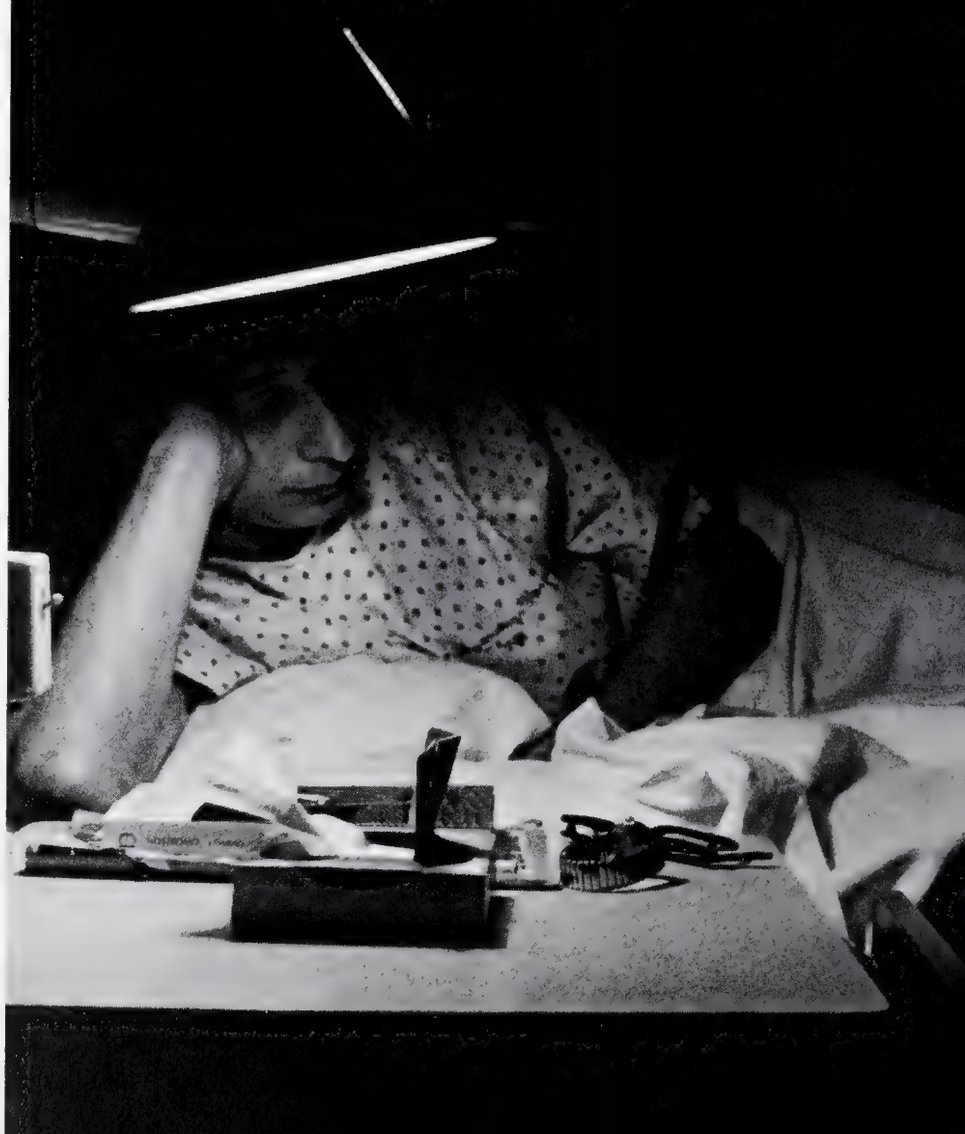

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Recently, the AMA House provided the same opportunities for membership and participation to medical students.

That's not all. In another important change, the AMA's council-committee structure has been streamlined. Some councils and committees have been dropped. Others have been made more efficient by reducing their size to seven members for councils and five for committees. And to permit more frequent infusion of new members and ideas, maximum tenure of service has been reduced to seven and five years, respectively.

The AMA *has* made a lot of changes. Changes to make it more responsive to the ideas of *all* physicians . . . changes to make it more effectively serve the needs of the profession.

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Harrington instrumentation in the fractured, unstable thoracic & lumbar spine

Jesse H. Dickson, MD; Paul R. Harrington, MD; Wendell D. Erwin, MD

The first recorded surgical exploration of a fracture-dislocation of the spine, associated with neurological damage, was done by a French surgeon (Louis) in 1762, but not until World War I was a greater interest[5] taken in this kind of injury. Most of the recorded observations[2] pertained to patients who had sustained gunshot wounds in the war; unfortunately, interest in this problem (as reflected by the literature) subsided after the war.

However, the increased incidence resulting from World War II again stimulated further query into this particular trauma,[6] since it had become apparent that all persons who sustained fractures of the spine associated with neurological damage did not necessarily die, as had been the widespread belief in earlier days.

Stabilization of the fracture-dislocated spine was in question then and still remains open to discussion, for even today there is no uniformity of opinion regarding which fracture-dislocations of the spine should be relocated and which should be stabilized by fusion, and within which period of time following injury.

Part of the reason for the continued disagreement on whether or not a spine should be stabilized is that there have been no adequate means of stabilization during that period after injury and before a bone fusion can develop. We believe that in this respect, the Harrington instruments offer precisely what is needed for the patient with a fracture-subluxation of the thoracic or lumbar spine.

It goes without saying that all fractured spines are not unstable. Stability of the spine depends upon the following interrelated factors: (1) the integrity of the vertebral body, (2) the status of the posterior elements (including the facets, laminae, spinous processes and the interspinous ligaments), and (3) the alignment of the vertebral column (ie, whether there is any subluxation or dislocation of a vertebral body.)[4]

A compression "burst" fracture is often stable, however we have found it to be unstable when there is forward subluxation of the spine that engenders fractures to the posterior elements and/or tears the posterior ligaments. Pure subluxation of the spine is unstable because of the loss of alignment and tearing of the posterior ligaments. A compression fracture with anterior wedging of 30° or more, without subluxation, but on which a laminectomy has been performed and the posterior elements removed has, in our experience, also proved unstable.

In summary, we feel that loss of alignment of the vertebral column due to subluxation, and especially when associated with loss of normal contour of the vertebral body (eg, slice fractures and wedge fractures), will render the spine unstable. Laminectomy performed on compression fractures with anterior wedging of more than 30° will, we feel, also result in spine instability. There are exceptions of course, inasmuch as the first x-ray of the spine after injury does not indicate what actually took place at the time of the initial trauma.

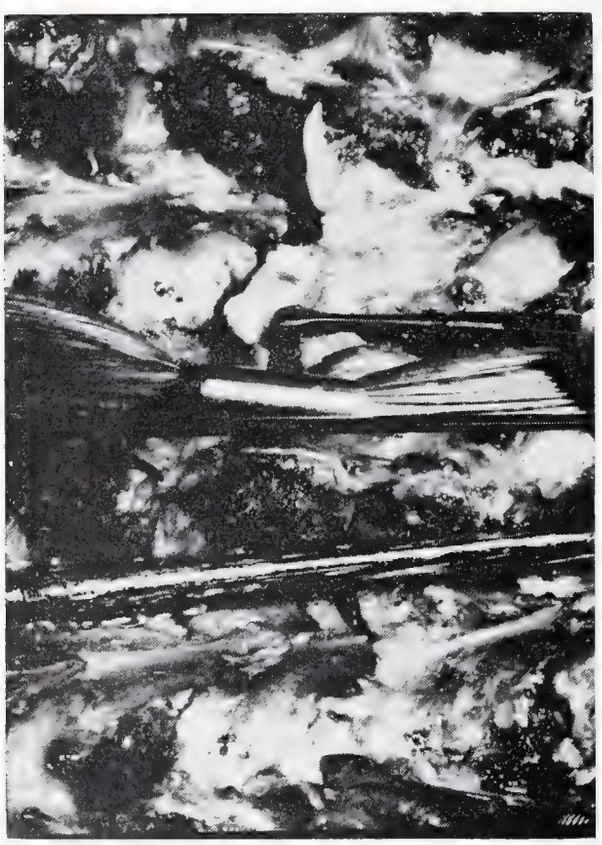
Material

The first instrumentation and fusion procedure for this condition was done at the Texas Institute for Rehabilitation and Research on Jan 1, 1960. Since that time 29 such procedures have been performed, on the thoracic and lumbar portions of the spine, to achieve stability for fracture-subluxations.

Of these 29 patients, 17 were males and 12 were females. Their ages at time of in-

Level of Injury	Complete	Incomplete
T-5		1
T-6		1
T-7	1	
T-8	3	2
T-9	2	
T-10		
T-11	2	1
T-12	3	1
L-1	2	4
L-2	1	2
L-3	1	2

1. The distribution of the levels of fracture, and whether associated with complete or incomplete paralysis at the time of initial evaluation of 29 cases with fracture subluxation of the thoracic or lumbar spine.



2. Top: A photograph of a 22-year-old male with a fracture subluxation at T-8 on T-9 and complete paraplegia, shows the exposure of the posterior elements. The marker is seen on the left superior facet of T-9, which is approximately 2 cm posterior to its normal articulation with the inferior facet of T-8. Below: The distraction rod is seen at the right of the photograph. The marker is again on the superior facet of T-9, which is now in near normal alignment with the inferior facet of T-8.

jury ranged from 12 to 59 years, with an average age of 29 years.

Fourteen injuries were caused by automobile accidents, 9 by falls, and the others by motorcycle accidents.[2] plane crashes,[2] and heavy blows.[2]

Fifteen patients had complete paraplegia, while 14 presented with incomplete lesions (Fig 1).

Seven patients were operated upon within 36 hours of injury, 10 within three months of injury, and 12 after three months. Delayed procedures (after three months) were done primarily for instability with progressive deformity and for relief of pain.

In these 29 cases there were no complications resulting from the Harrington instrumentation and fusion procedures.

Method

Stabilization of the spine was accomplished by using two Harrington distraction rods either alone or in conjunction with laminectomy. If laminectomy was performed, the neurosurgeon was asked to leave the facets in place even if fractured; a fusion can develop on top of fractured facets, whereas without the facets, there is a large gap created which is difficult for a fusion to bridge.

On one side, the upper and lower distraction hooks were placed two vertebrae above and below the fracture-subluxation,[3] and the rod inserted between the hooks. (This reduces the fracture and also gives stability to the spine so that a fusion can be undertaken without further trauma to the spinal cord and surrounding soft tissue) (Fig 2).

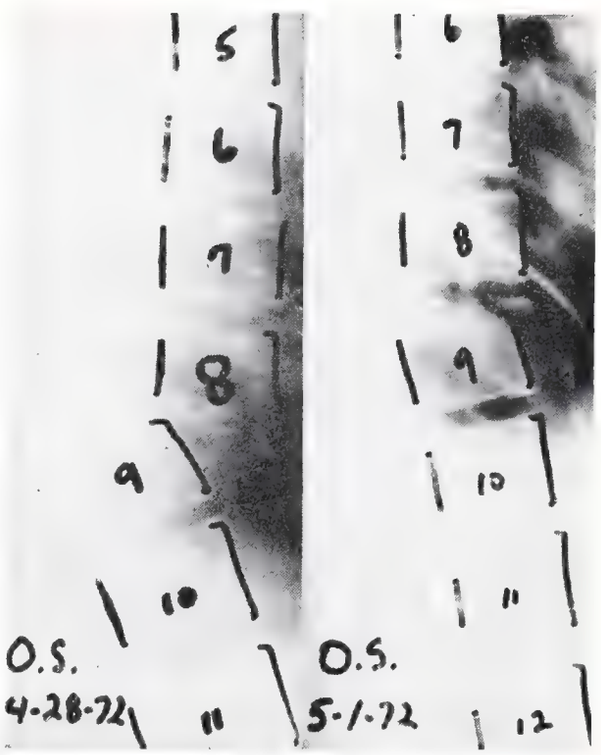
On the opposite side, a posterior lateral fusion was laid down and the second distraction rod was secured into position. The

first distraction rod was then removed, a posterior lateral fusion laid down in the site, and the rod put back into place.

Distraction rather than compression was used because it realigns the spine to a near-anatomical position. Bedbrook[1] found in postmortem studies of patients with fracture-dislocation of the spine, that the anterior longitudinal ligament was usually intact. It is our opinion that the intact anterior longitudinal ligament, being placed under tension by the distracting instruments, is a soft-tissue force that guides the realignment of the fractured vertebral column (Fig 3).

Postoperative management was based on whether or not there was sensation about the pelvis. When affirmative, a cast was applied one week postoperatively and the patient was allowed to ambulate according to ability. If no sensation could be elicited (complete paraplegia), the patient was placed on a standing board, starting on the third day. When he could tolerate 70 degrees for one and one-half hours (usually on the 10th to the 12th day), he was then allowed in a wheel chair to tolerance.

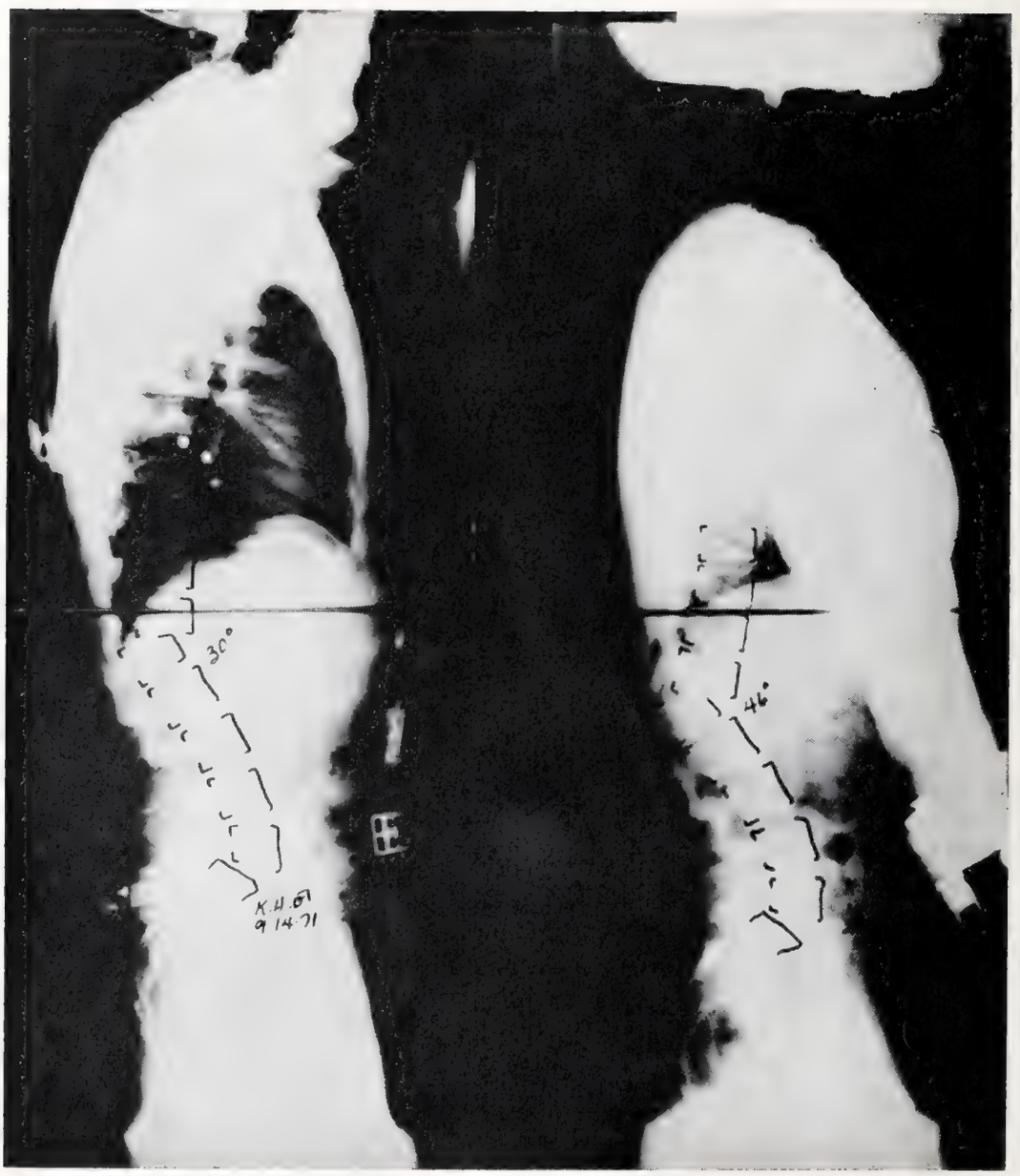
These patients were started on the routine hospital paraplegic program, except that they were not taught to self-transfer, not permitted to walk with crutches or braces, and not allowed to learn to fall until three months after surgery.



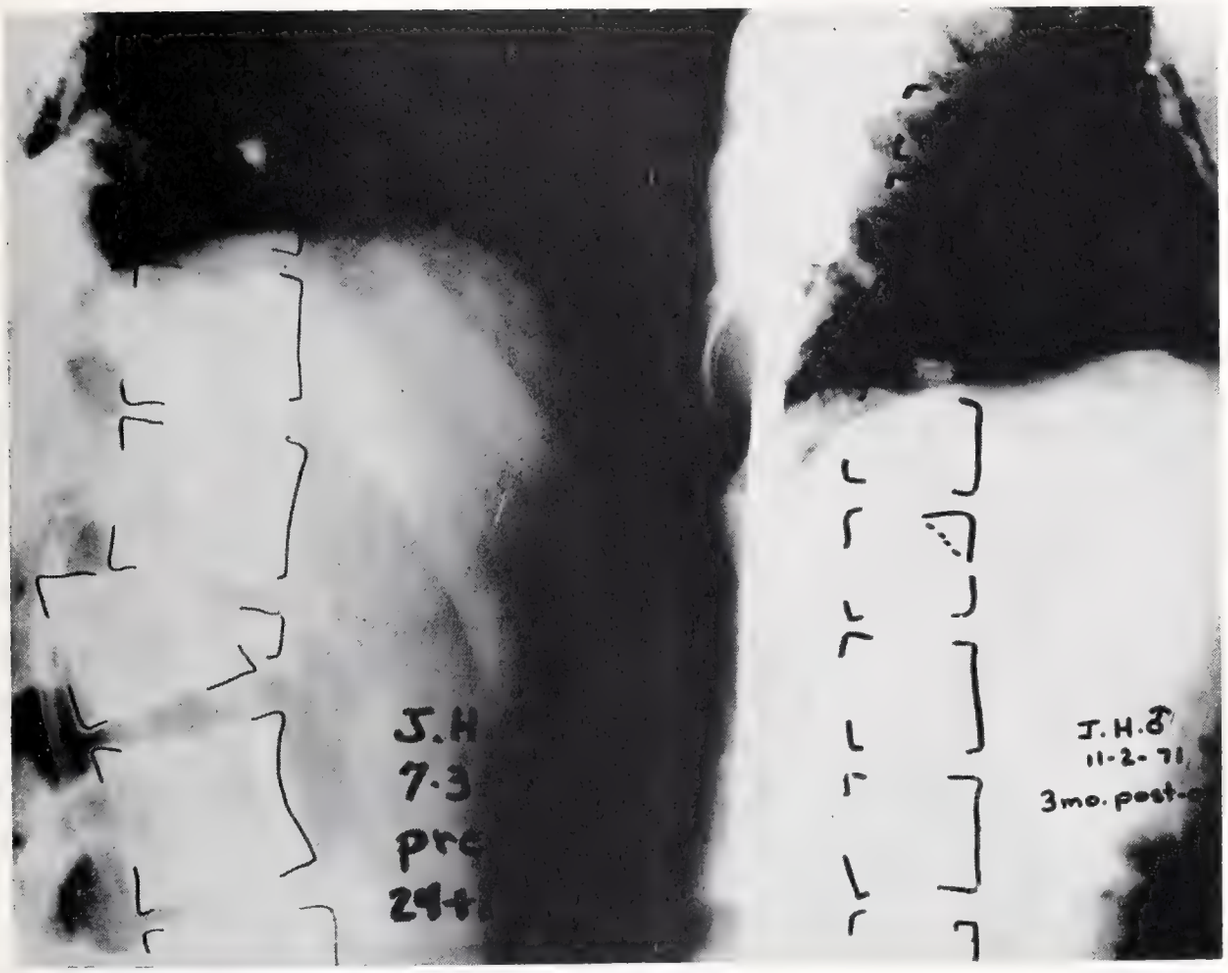
3. The preoperative and postoperative roentgenograms of the same patient shown in Fig 2 illustrate the reduction of the fracture and the near-anatomical realignment of the spine.

Case Presentations

We have selected the following four cases as illustrative of several important points: Case 1: A 28-year-old male showed progression of deformity following laminectomy, with subluxation of the spine and an incomplete neurological lesion (Fig 4). He was injured on July 21, 1971, and sustained a fracture-subluxation at T-12 on



4. Left: A standing lateral roentgenogram of patient (case 1) in a Taylor-Knight brace, approximately two months after injury. Right: This roentgenogram of the same patient shows progression not only of the kyphosis, but also of the forward subluxation of T-12 on L-1.



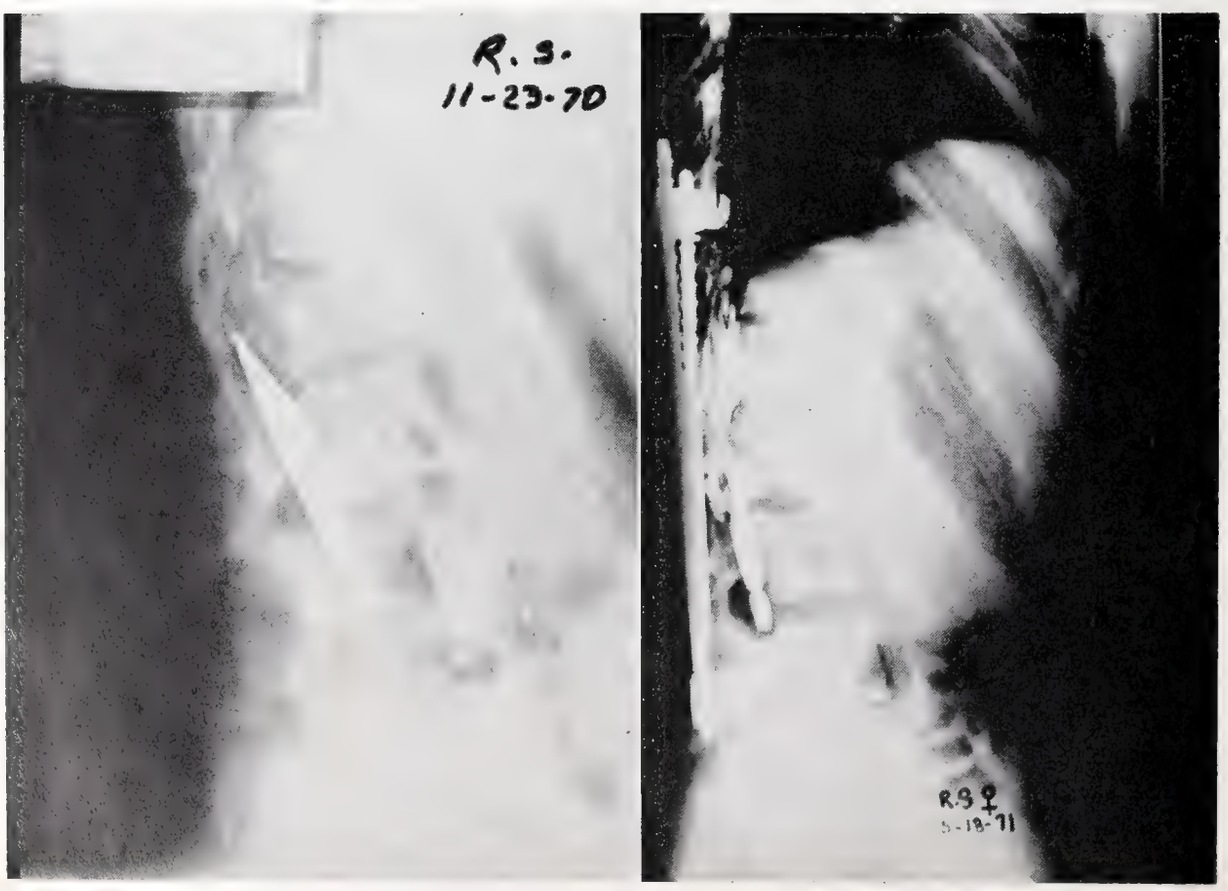
5. Left: A standing lateral roentgenogram, case 2, shows the fracture subluxation of T-12 on L-1. Right: This roentgenogram of the same patient was taken during his rehabilitation program, three months after injury. Note that the alignment of the spine has been maintained.

L-1. A decompressive laminectomy was performed on the date of injury, following which the patient wore a Taylor-Knight brace for three months. During this time he experienced a progressive return of function to the point that he could ambulate on crutches, however he continued to have neurologic bladder problems. Serial x-rays showed progressive subluxation, and pain increased. Fortunately, there was no loss of the regained function.

In this type of injury, we have found that it is important to return the spine to an anatomical position, using the distraction rods, within three weeks from time of injury. If one waits longer, alignment cannot be restored. Therefore, in this case, we elected to accept the deformity and to do an anterior fusion. The patient should have had instrumentation and fusion at the time of laminectomy.

Case 2: A 24-year-old male was injured in a motorcycle accident on July 31, 1971, and sustained a fracture-subluxation at T-12 on L-1, resulting in flaccid paraplegia (Fig 5). A decompressive laminectomy was performed, followed by instrumentation and fusion from T-10 to L-3. Ten days after injury the patient was able to tolerate a standing board for two hours and was then started on a progressive rehabilitation pro-

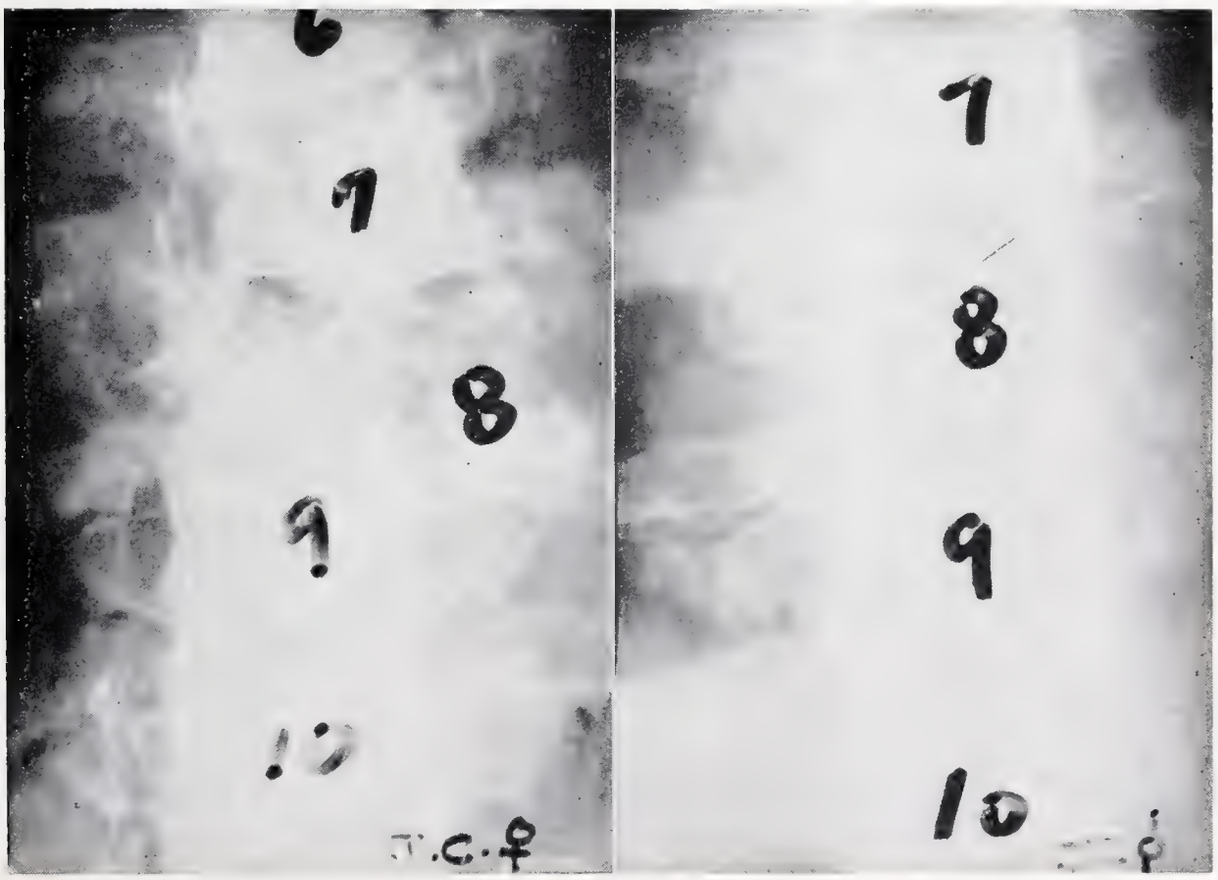
6. Left: This lateral myelogram, case 3, was taken five days after a decompressive laminectomy had been performed. Right: This myelogram shows the patient six months after injury. Note that the dye readily passes the fracture subluxation site, and that the near-anatomical alignment of the spine has been maintained.



gram. He was discharged on Nov 19, 1971, fully rehabilitated and able to take his place in society as an independent individual. This case illustrates the rapid return of a patient following a catastrophic injury. His total recovery time, from date of injury until he returned to work was 111 days. From the time of admission to discharge, the complete rehabilitation process at the Texas Institute for Rehabilitation and Research averages 87 days, however this average reflects over 600 paraplegic patients whose spines were *stable* at the time of admission.

Case 3: A 19-year-old female was injured in an automobile accident on Nov 17, 1970, and sustained a fracture-subluxation at L-1 (Fig 6). Initially, only toe flexors were present on the left foot. The day following injury, a decompressive laminectomy was performed, and over the next ten days only a small amount of further return was noticed. On Nov 27, ten days after her accident, instrumentation and fusion was performed. Following this, she experienced progressive return of function to the point where she could ambulate without assistance, and she was discharged on Jan 19, 1971, with the only neurological deficit being a weakness in the left quadriceps muscle.

7. Left: The preoperative anteroposterior roentgenogram, case 4, shows severe lateral subluxation of T-8 on T-9. (Lateral x-rays had shown very little forward subluxation). Right: The postoperative roentgenogram of the patient shows the alignment of the spine approximately five days postinjury and instrumentation/fusion.



Case 4: A 30-year-old female was injured in an automobile accident on Nov 26, 1970, and sustained a fracture-subluxation at T-8 with complete paralysis at that level (Fig 7). Instrumentation and fusion was performed within six hours of injury, restoring the fracture to an anatomical position. Her rehabilitation program was started 12 days following injury, but was complicated by a psychological problem. The patient was discharged totally rehabilitated on April 9, 1971, with no return of function, but able to take up her role again as a homemaker. She spent 134 days in the hospital from the time of her accident until she resumed her duties in the home.

Summary

The Harrington distraction instruments have been applied in 29 cases having fracture-subluxations of the thoracic or lumbar spine. Four of these are presented in this review.

For the patient with complete, traumatic paraplegia who has been treated with instrumentation as described, a program of rehabilitation can be initiated almost immediately. Early introduction to such a program is most desirable in that it prevents, or lessens, the numerous problems such as loss of protein and calcium, recurrent kidney and bladder infections, pressure sores, etc, not to mention those of a psycho-social nature, to which these patients are subject.

In addition to shortening the total hospitalization time of the patient with partial paraplegia, a near-anatomical alignment can be obtained and maintained by the instruments, thus theoretically setting the stage for maximal recovery of neurological function.

We feel that the Harrington distraction rods provide an excellent means by which to obtain immediate stability for the unstable, fractured-subluxed thoracic or lumbar spine. We have too few cases to state positively that a greater neurological return is obtained by restoring the spine to a near-anatomical position in those patients having paraplegia from fracture-subluxation, however at this time it is our impression that this might be the case.

References

1. Bedbrook GM: Are cervical fractures ever unstable? Western Pacific Orthop Assn J Vol 6 No 1, March 1969.

2. Frazier CH, Allen AR: Surgery of the spine and spinal cord. New York, Appleton, 1918.

3. Harrington PR: Instrumentation in spine instability other than scoliosis. S Afr J Surg 5:7-12, 1967.

4. Holdsworth FW: Fractures, dislocations, and fracture-dislocations of the spine. J Bone Joint Surg 52-A:1534-1551, 1970.

5. Holmes G: The Goulstonian Lectures on spinal injuries of warfare. Brit Med J 2:769-855, 1915.

6. Munro D: Rehabilitation of patients totally paralyzed below the waist with special reference to making them ambulatory and capable of earning their living; anterior rhizotomy for spastic paraplegia. New England J Med 233:453-461, 1945.

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This work was done at the Texas Institute for Rehabilitation and Research and was supported by the Social and Rehabilitation Service Research and Training Grant RT-4.

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1. Braverman, L. E., Ingbar, S. H., and Sterling, K.: Conversion of Thyroxine (T_4) to Triiodothyronine (T_3) in Athyreotic Human Subjects, J. Clin. Invest. *49*:855-64, 1970.
2. Surks, M. I., Schadlow, A. R., and Oppenheimer, J. H.: A New Radioimmunoassay for Plasma L-Triiodothyronine: Measurements in Thyroid Disease and in Patients Maintained on Hormonal Replacement. J. Clin. Invest. *51*:3104-13, 1972.

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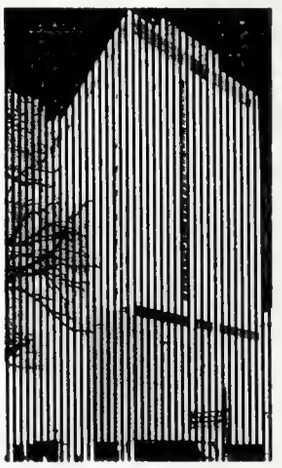

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Meckel's diverticulum

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Literature concerning Meckel's diverticulum is reviewed, and an anatomically unusual example of this abnormality is presented. Elective Meckel's diverticulectomy should be performed whenever the diagnosis is made and the condition of the patient permits.

Meckel's diverticulum was first mentioned in 1598 by Hildanus, who described the small-bowel diverticula as normal variants. During the 17th and 18th centuries, other reports[15,17,21] appeared about such structures, but it was not until 1808 that Meckel published his first description of the anatomical variant which bears his name.[18]

The purpose of this report is to review some of the clinical features of this abnormality, and to illustrate with an unusual example of Meckel's diverticulum.

Discussion

Meckel's diverticulum is a persisting remnant of the omphalomesenteric duct. The diverticulum is usually antimesenteric in location, though it sometimes is found between the mesenteric leaves. It usually arises in the terminal 2 feet of ileum, and is estimated to exist in as many as 2% of the population. The sex ratio shows a male preponderance in the range of 1.5:1 to 15:1, depending upon the report. The diverticular wall is composed of all layers of intestine, and there is a blood supply to the diverticulum which is separate from the supply to the contiguous ileum, though it is mesenteric in origin. The diverticulum not infrequently contains heterotopic tissue, and perhaps as many as 50% of Meckel's diverticula are so structured. Reference to this point will be made later.

Most people with Meckel's diverticulum have no symptoms which can be related to their anomaly. However, when Meckel's diverticulum does cause clinical problems, the manifestations usually are severe. For example, because of the gastric mucosa in some of these structures, peptic ulceration can occur. Most of these ulcers are in the ileum immediately adjacent to the diverticulum, though the ulcer can arise in the diverticulum itself. The ulcer is subject to the usual ulcer complications, but by far the most frequent complication is bleeding. Bleeding from an ileal ulcer from this source, in fact, is the most common cause of gastrointestinal bleeding in children under age 2. The bleeding is often massive and frequently necessitates emergency surgery. Slow blood loss from a Meckel's ulcer probably does occur but there is only one case report of a child with iron deficiency anemia and guaiac-negative stools who was cured of the anemia by resection of her Meckel's diverticulum.[28]

Meckel's diverticulum can contain mucosa other than ileal and gastric, but these other patterns are quite uncommon. These other heterotopic tissues include pancreatic, colonic, jejunal, and duodenal mucosae. Heterotopic tissue is found in almost 60% of symptomatic Meckel's diverticula, whereas such tissues are present in only 5% of Meckel's diverticula that are removed incidentally.

Perforation of Meckel's diverticulum ulcer occurs in approximately 2% of the cases. The death rate from this complication is high, probably about 50%, though no large series of cases with perforation is available for analysis. These peforations, like any others, are often well walled-off at the time of surgery. Perforation of Meckel's diverticulum without ulcer is reported, and this results from foreign-body ingestion as well as inflammation.

Intestinal obstruction due to Meckel's diverticulum is reported, usually due to

intussusception. However, there are some unusual causes of obstruction, for example, in one case, an enterolith developed in a Meckel's diverticulum, escaped, and passed distally to cause obstruction of the terminal ileum.[4]

Large Meckel's diverticula can cause symptoms from size alone.[5,7] One such case was in an 11-year-old girl, who had numerous episodes of vomiting. Her Meckel's diverticulum measured 15 cm in diameter, and the operative findings suggested intermittent volvulus with obstruction. This Meckel's diverticulum was further complicated by an ulcer, with anemia and occult blood in the stools.[7]

Meckel's diverticulum is not usually injured in trauma, and in fact, only one report relative to this is present in the literature.[22] In this patient, an automobile accident resulted in a 2 by 3 cm rupture of the tip of a Meckel's diverticulum which was attached with adhesions to the infracecal region. Additionally, the vessels to this Meckel's diverticulum were disrupted, and a blood loss of 1,500 cc had occurred by the time exploratory surgery was undertaken.

Meckel's diverticulum is not immune to some of the otherwise more common intestinal diseases. Although it is not frequent anywhere in the intestinal tract, endometriosis can involve a Meckel's diverticulum. There is also one case report of a Meckel's diverticulum (in a 41-year-old woman) which was involved with both endometriosis and Crohn's disease. This is believed to be the only such case in the literature, and the patient's surgery was brought about because of pelvic mass and presumed pelvic abscess.[36]

A curious complication of Meckel's diverticulum is that of calculous disease. There are approximately 20 cases of Meckel's diverticulum showing stones present. An example is presented by Feldman[8]: A 47-year-old man had a normal gallbladder as seen on x-ray and at surgery, but he had many faceted, green calculi in the Meckel's diverticulum. These stones, like those in the other cases, were morphologically suggestive of gallstones. A possible explanation for the similarity of the stones is that since bile salts are metabolized in the distal ileum, perhaps the similar composition of stones in the Meckel's diverticulum can also lead to an analogous appearance of these stones.

Internal fistula formation has been reported in an 11-year-old girl whose diverticulum contained gastric mucosa and an ulcer near the base of the Meckel's diverticulum. This ulcer had perforated into an adjacent loop of ileum forming an ileo-ileal fistula. Resection of the Meckel's diverticulum and closure of the fistula were curative.

Mesodiverticular bands are worthy of note. These bands are remnants of the vitelline arteries and attach at the tip of the Meckel's diverticulum and originate in the adjacent ileal mesentery. These bands are significant in leading to intestinal obstruction through either internal herniation with incarceration and strangulation or through volvulus.[25]

Meckel's diverticulitis is not frequently diagnosed preoperatively, although this condition is one of the more common surgical complications of Meckel's diverticulum. The preoperative diagnosis is acute appendicitis in more than 50% of these cases, and indeed, the symptoms and physical signs are indistinguishable unless the patient has a history of umbilical drainage as an infant, a fact which the patient often does not know.

There are numerous reports in the literature of methods for diagnosing Meckel's diverticulum before operation,

but so far, none have achieved universal application. Stein et al,[29] in 1958, could find only 38 cases in the literature which had been diagnosed preoperatively. Kendig et al[13] in 1960 reported two cases diagnosed preoperatively with small-bowel x-rays taken at hourly intervals, and subsequently proven at operation.

Wolfe and associates[35] in evaluating a patient for chronic iron deficiency anemia and guaiac-positive stools, passed a small polyethylene tube into the intestine through the mouth, aspirated content at different levels, and when the aspirate became guaiac-positive, injected barium, demonstrating a Meckel's diverticulum. This specimen showed an ulcer with gastric mucosa in the diverticulum.

An interesting report by Fetterman[9] involved a Meckel's diverticulum demonstrated on barium enema with reflux into the ileum, and initially interpreted as a small-bowel polyp. The patient was being evaluated for recurrent abdominal pain, and had undergone exploratory surgery previously with no abnormalities reported. Reexploration revealed the Meckel's diverticulum to be inverted into the intestine, resulting in the radiographic appearance of a polyp.

Cross and associates[5] reported an unusually large Meckel's diverticulum diagnosed preoperatively in a premature baby, whose obstruction called attention to the diverticulum on the 12th day of life. This diverticulum measured 8 by 7 by 4 cm in size and when filled with intestinal content, as it was, comprised a large abdominal mass. The intestine was obstructed because of torsion of the ileum, and resection of the involved segment of the ileum was curative. This patient's case was diagnosed basically on the plain abdominal film combined with a barium enema which did not fill beyond the hepatic flexure.

An interesting new diagnostic technique was described by Jewett et al [12] in 1970. The method involves injection of 99mTc-pertechnetate and subsequent scanning after certain preparatory blocking is achieved. Because of the time factor, this method would be of more use in elective workup than in emergency situations, and will be positive only if gastric parietal cells are present within the diverticulum since it is these cells which pick up the radionucleotide. The authors presented two cases of gastrointestinal bleeding which were traced to Meckel's diverticulum preoperatively and confirmed at the time of surgery.

Neoplasms of Meckel's Diverticulum

Neoplasms of Meckel's diverticulum are not common, there being approximately 150 cases in the literature. Of these, 20% are benign, 35% are carcinoids, and 45% are malignant adenocarcinomas and sarcomas.

Benign

The benign neoplasms include, most commonly, leiomyomas. These vary in size from 1 cm to 10 by 15 cm, and produce symptoms by leading intussusceptions, inflammation, and hemorrhage from mucosal erosion. The bleeding from this source is usually not rapid, but rather a slow, chronic problem.

Connective tissue tumors also vary widely in size and can produce many of the same symptoms as the leiomyomata. These are the second most common type of benign tumors arising in Meckel's diverticulum.

There are rare cases of hemangiomas and hemangioendotheliomas. Although these tumors do not achieve great size, intussusception is the most frequent presenting picture.

Lipomas are rare in Meckel's diverticulum, but do occur.

Tumors of neural origin are also quite rare, and probably arise from the neural elements in Meissner's and Auerbach's plexuses. Obstruction and bleeding are the most frequent symptoms of these tumors.

Malignant

Carcinomas: Malignant neoplasms, excluding carcinoids, which will be discussed separately, are not common, and can include glandular carcinomas in a variety of forms. These include cylindroma, medullary, mucous, papillary, anaplastic, and gastric adenocarcinomas. The average age is 52 years, and males predominate. The most frequent symptom in patients with adenocarcinomas arising in Meckel's diverticulum is abdominal pain. A minority of these patients experience weight loss. Physical findings most frequently include poorly localized abdominal tenderness, and an occasional patient will present with an abdominal mass. Ascites has been reported in only one case of adenocarcinoma of the Meckel's diverticulum. Fifty percent of the patients will have metastases to local nodes, aortic nodes, or liver at the time of surgery. There are no five-year cures reported after appropriate intestinal and mesenteric resection, and most of the patients reported are dead within one year of the diagnosis.

Sarcomas: Sarcomas arising within a Meckel's diverticulum have been reported 35 times in the literature. These include 12 spindle cell sarcomas, 17 leiomyosarcomas, 3 lymphosarcomas, 1 each of fibrosarcoma and fibromyosarcoma, and one of undetermined nature.

The average age of these patients is 51 years, with a nearly equal sex distribution. The usual symptoms are abdominal fullness, mass, and diarrhea. Like adenocarcinomas, sarcomas most frequently present with abdominal tenderness, but mass is more commonly palpable with sarcomas, either on abdominal or pelvic/rectal examination.

The prognosis of sarcoma is difficult to establish because of the limited number of cases and incomplete follow-up. However, several factors are apparent. First, the prognosis is most closely related to the histologic grade of the tumor. Second, since these tumors do not spread via the lymphatics, but rather by vascular embolization and peritoneal seeding, a wide lymphatic resection is not considered necessary for adequate surgical management. Finally, the cure rate is approximately 40%, as well as can be determined from the 11 cases for which follow-up information is available.

Carcinoid tumors: A carcinoid tumor of a Meckel's diverticulum was probably described one year before Oberndorfer's classic description of carcinoids in 1907. It was Gumperz in 1906 who reported a patient with a firm, yellow tumor in a Meckel's diverticulum which arose submucosally. Since that time 40 similar cases have been reported in the literature.

Of these, 32 were in men and 8 were in women. The tumors have been noted most frequently in the 40-80 age group. Two of the patients had double tumors. Most of the tumors were 3 to 10 mm in size.

In three of the male patients, metastases were found incidentally at autopsy. Liver metastases were noted in five of the female patients, and three of these had symptoms of the carcinoid syndrome. In these three, the primary tumor was not disclosed until the time of autopsy. Of the 40 cases in the literature, only these

8 were observed to have metastases when reported. It is difficult to explain why the smaller number of women had such a large proportion of the metastatic disease.

The patients with carcinoid syndrome arising in a Meckel's diverticulum primary are not distinguishable symptomatically from patients with carcinoids arising in other locations, and their symptomatic treatment is the same.

Presentation of a Case

The patient, a 24-year-old woman, had an episode of midabdominal pain one year prior to admission; she was treated with cathartics and spastic colon was diagnosed. She recovered after several days. Her present hospitalization was prompted by another episode of midabdominal pain, and she was admitted to the hospital where the findings were confined to the abdomen. She had severe tenderness, guarding, and spasm from the umbilicus to the pelvis. No masses or organs were palpable. On admission the white blood count was 7,500 with a lymphocyte predominance and several atypical lymphocytes. Heterophile agglutination was negative as was the spot test for infectious mononucleosis. She was managed solely with observation during the next 12 hours when repeated examination demonstrated less of the diffuse signs and a definite infraumbilical mass which was still severely tender. A pelvic examination on both occasions showed no abnormalities.

She was taken to surgery where the findings were those of a Meckel's diverticulum with attachment to the under surface of the umbilicus and with gangrene and localized abscess formation in that distal portion. She also had a persistent urachus attached to the umbilicus which was lying free, as a cord, within the peritoneal cavity (Fig 1). Although these two structures were lying free within the peritoneal cavity and formed bands, there was no evidence of acute or previous torsion of intestines, or internal herniation.

The patient was managed with ligation of the urachus at the dome of the bladder along with urachal resection and segmental resection of ileum with the Meckel's diverticulum. Incidental appendectomy was done. Her course was marked by fever from the fifth to the eighth postoperative days with no physical findings to explain it. The fever responded to a course of carbenicillin and gentamicin after which the patient recovered uneventfully and resumed her normal activities. Cultures of the pus from her abscess grew *Klebsiella* and *Enterococci*. Follow-up examination of this patient has revealed no symptoms or abdominal abnormalities.

It is interesting to note that this patient's mother, several days after the operation, informed us that the patient had had a persistent umbilical drainage until she was about 1 year of age, a fact of which the patient was unaware. Pathologic examination of the specimen failed to reveal any heterotopic tissues.

1. Gross photograph of gangrenous Meckel's diverticulum and attached urachus.

Conclusions

It is apparent from the literature on Meckel's diverticula that the most prominent feature of these anomalies is the serious nature of their complications. An asymptomatic Meckel's diverticulum, when discovered at laparotomy, should be removed, providing no specific contraindications for this exist. Under these conditions, the mortality and morbidity are minimal.

When a Meckel's diverticulum does become symptomatic, however, it is usually with symptoms of a most severe type. Hemorrhage, obstruction, and inflammation are the principal surgical complications, and malignant tumor development cannot ever be overlooked. The literature describes high morbidity and mortality rates for some of these Meckel's diverticulum complications, and it is for this reason that elective removal of Meckel's diverticulum is so strongly urged when the diagnosis is made at surgery.

References

1. Abramson D: Acute appendicitis and a Meckel's diverticulum with enterobius vermicularis. First reported case. Amer Surg 32:343-346, 1966.
2. Aubrey DA: Meckel's diverticulum. A review of the sixty-six emergency Meckel's diverticulectomies. Arch Surg 100:144-146, 1970.
3. Becker FP: Argentaffinomas of Meckel's diverticulum and adjacent ileum. Gastroenterol 38:646-649, 1960.
4. Bergland R, Gump F, Price JB: An unusual complication of Meckel's diverticula seen in older patients. Ann Surg 158:6-8, 1963.
5. Cross VF, Wendth AJ, Phelan JJ, et al: Giant Meckel's diverticulum in a premature infant. Amer J Roentgenol 108:591-597, 1970.
6. David T: Unusual finding during dermatoglyphic study. J Pediat 79:343, 1971.
7. Endlich H, Kafka H, Powsner L: Giant Meckel's diverticulum. JAMA 191:1084-1085, 1965.
8. Feldman M: Calculi in Meckel's diverticulum. Radiology 86:541-543, 1966.
9. Fetterman LE: Meckel's diverticulum radiographically appearing as a polyp (inverted). Brit J Radiol 41:940-941, 1968.
10. Frederick PL, Johnson ET: Meckel's diverticulum in childhood. A review of 73 cases. Postgrad Med 34:341-348, 1963.
11. Halböök T, Lindstedt E: Unusual complications in patients with Meckel's diverticulum. Acta Chir Scand 136:77-80, 1970.
12. Jewett TC, Duszynski DO, Allen JE: The Visualization of Meckel's diverticulum with 99mTc-pertechnetate. Surgery 68:567-570, 1970.
13. Kendig TA, Berkow KA, Krueger K, et al: Meckel's diverticula, preoperative roentgen diagnosis in children. Radiology 74:964, 1960.
14. Lamphier T, Dennehy T, Goldstein R, et al: Meckel's diverticulum, a survey of 109 cases. J Internat Coll Surg 37:523-532, 1962.
15. Lavater J: De intestinorum compressione. Diss Basileae, F Pabst, 1672.
16. Letac B, Varet B, Grossgogeat Y: Carcinoid tumor of Meckel's diverticulum. Carcinoid syndrome characterized by predominant respiratory manifestations. JAMA 209:109-111, 1969.
17. Littre A: Observation sur une novelle espece de hernia. Hist Acad Ray De Sc, 1700, 300.
18. Meckel JF: Breiträge zur Vergleichenden Anatomie. Heinrich C. Reclam, Leipzig, 1808, p 91.
19. Meckel JF: Uber die Divertikel and Darmkanal. Archiv f d ges Physiol 9:421, 1809.
20. Mendoza CB, Cueto J, Payan H, et al: Complete urachal tract associated with Meckel's diverticulum. Arch Surg 96:438-439, 1968.
21. Mery J: Observations sur les herniaes. Mem Acad de Sc, 1701, 273.
22. Park H, Lucas C: Perforated Meckel's diverticulum following blunt abdominal trauma. J Trauma 10:706-707, 1970.
23. Passaro E, Richmond D, Gordon HE: Surgery for Meckel's diverticulum in the adult. Factors in morbidity and mortality. Arch Surg 93:315-318, 1966.
24. Roberg OT: Result after empiric gastric resection for massive hemorrhage from concealed Meckel's diverticulum. Amer J Surg 111:712-714, 1966.
25. Rutherford RB, Akers DR: Meckel's diverticulum: a review of 148 pediatric patients with special reference to the pattern of bleeding and to mesodiverticular bands. Surgery 59:618-626, 1966.
26. Seagram CGF, Louch RE, Stephens CA, et al: Meckel's diverticulum: A 10-year review of 218 cases. Canad J Surg 11:369-373, 1968.
27. Schlicke CP, Johnson EV: Experiences with Meckel's diverticulum. Surg Gynec Obstet 126:91, 1968.
28. Sparberg M: Chronic iron deficiency anemia due to Meckel's diverticulum. Amer J Dis Child 113:286-287, 1967.
29. Stein GN, Bennett HH, Finkelstein A: Preoperative roentgen diagnosis of Meckel's diverticulitis in adults. Amer J Roentgenol 79:815-822, 1958.
30. Taneja OP, Taneja S: Diseases of Meckel's diverticulum. Arch Surg 90:349-357, 1965.
31. Weinstein E, Caine JC, ReMine WH: Meckel's diverticulum: 55 years of clinical and surgical experiences. JAMA 182:251-253, 1962.
32. Weinstein EC, Dockerty MB, Waugh JM: Neoplasms of Meckel's diverticulum. Surg Gynec Obstet 116:103-111, 1963.
33. Weinstein EC: Meckel's diverticulum. J Amer Geriat Soc 13:903-907, 1965.
34. Weitzner S: Carcinoid of Meckel's diverticulum. Report of a case and review of the literature. Cancer 23:1436-1440, 1969.
35. Wolfe SM, Harrah JD, Merritt WR, et al: Radiographic diagnosis of Meckel's diverticulum. JAMA 205:801-802, 1968.
36. Won KH: Endometriosis, mucocele, and regional enteritis of Meckel's diverticulum. An unusual case report and experiences in 111 cases. Arch Surg 98:209-212, 1929.

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Anson Jones: Texas Patriot

Nancy Ray

Editor's note: The following article is an edited and condensed version of a manuscript written by Nancy Ray, wife of Dr. Robert S. Ray of Seguin, for a Texas Lutheran College history class. In addition to his many accomplishments, Dr. Anson Jones was responsible for the establishment of the first regulations concerning the practice of medicine in Texas. In his honor the Anson Jones Award of the TMA is presented annually to the news media of Texas for excellence in communication health and information to the public.

Anson Jones surveyed with negative apprehension the debris-ridden and ravished landscape left in the wake of the recent flood-swollen river. The beautiful land he had anticipated was not the sight that met the eye of the young physician. Little did he know as he admonished Captain Brown to wait for him to return, that destiny would intervene. As he debarked the *Sabine* he reflected on his early life and encounters that had directed him to this desolate place.

Early Life

Anson Jones was born Jan 20, 1798, the 13th child of Solomon and Sarah Jones in Barrington, Mass. His family decided that he had the temperament to be the professional member of the family and that he would study medicine. Because of his lack of financial backing he was forced to intermittently interrupt his study to work.
Finally, in September 1820, he was recommended to the Oneida Medical Society which issued him a license to practice medicine.
After two unsuccessful attempts to establish a practice, however, Dr. Jones resorted to teaching school just to subsist. After six months in the classroom, he could tolerate no more.
In response to hearing that physicians were needed in Venezuela, Dr. Jones left for South America. His ultimate success there gave him the self-confidence heretofore unknown to him. He determined to return to Philadelphia and enter Jefferson Medical College for a two-year formal course of study. He received his MD degree in March 1827. Again he attempted to practice medicine in Philadelphia.

Repeated Failures

After five discouraging years, he decided to give up the practice of medicine and set sail for New Orleans.
But unfortunate business ventures there left him both disillusioned and in debt.
His acquaintance with Captain Jeremiah Brown of the *Sabine* and stories about cheap land persuaded Dr. Jones to make the $15 trip to look at Texas.
When he debarked in Brazoria Dr. Jones had $17 to his name, about $50 worth of medical supplies and debts amounting to $2,000. Cholera had followed the recent overflow of the Brazos and Brazoria looked all but abandoned. There was an overwhelming need for medical care and supplies. People begged Dr. Jones to stay.
Soon the doctor was making calls within a radius of 40 miles of Brazoria. In his eagerness for his profession, Dr. Jones

appeared to only vaguely hear the mounting political rumblings in Texas. However, the events leading up to the revolution and ultimate independence of Texas progressively drew Dr. Jones closer to a new career: Texas politics.

The first Congress for the new Republic met within the area Dr. Jones covered in his medical-calling circuit. His growing involvement with the issues before the law-making body led him to seek and win a seat in the Second Congress which met in Houston Sept 25, 1837. The physician's talents were known and appreciated by his fellow representatives, and he drew good committee assignments. But Dr. Jones had no real political ambitions. When Congress adjourned in May, he returned to Brazoria intending to re-establish his practice and to marry.

Before he had even rehung his shingle, however, Dr. Jones received a message from President Sam Houston requesting that he accept the post as Texas Minister to the United States. Dr. Jones accepted the task and arrived in Washington the end of August 1838.

Diplomatic Successes

Although the US Congress adjourned that term without taking action on Texas annexation, Dr. Jones' contacts in Washington led to favorable trade agreements as well as recognition of the Republic's independence by France and England. Recalled to Texas when Mirabeau B. Lamar became president, Dr. Jones was elected to the senate. But he had little interest in his tenure in office at this time. When Congress adjourned he felt like a liberated man. In May 1840 Dr. Jones and Mary McCrory bought the second marriage license ever issued in Travis County and were married.

Dr. Jones played a very influential part in Sam Houston's second term as president of the Republic. He was instrumental in diplomatic relationships and steered negotiations with Mexico amidst rumors that that country was planning to invade and reclaim Texas lands. He brought Texas to the threshold of achieving long sought objectives including the drafting of an annexation treaty by the United States.

President Jones

The Texas presidential election preceded the US election in 1844 by a few months. Dr. Jones won the race and was inaugurated in November about the same time US electors voted James K. Polk, pro-annexationist, into office as President.

President Jones' determination, foresight, and expertise in diplomatic affairs gained for the people of Texas the choice between absolute independence without strings or annexation to the United States. Dr. Jones' courage at the time went unrecognized by his Texas Congress and they viewed his tactics as devious ploys to achieve his personal preference of independence. The resulting lack of confidence by his Congress severely limited his activities until the end of his term.

In October Texas electors voted their acceptance of annexation and adopted a new state constitution.

In February 1846, President Jones dutifully performed his last service in public office. His closing words were: "... the final act in the great drama is now performed. The Republic of Texas is no more." As he stepped forward to lower the flag for the last time, the weatherworn flagpole broke in half. As he sadly stared at the broken flagpole the flag of the United States ascended a new pole.

Dr. Jones did not adapt to his forced political retirement. Impulsively he decided to move his family to Galveston. While looking for a place for his family to live there, he stopped over in Houston. Reminiscently he found his way to the site on which 20 years earlier had been the State Capitol Building. The building was a hotel and he took a room.

During the evening he was heard to comment, "My public career ... began in this house, and I have been thinking it might close here." The next morning Anson Jones was found dead; he had taken his own life.

As is so often the case in the annals of history, Dr. Jones died unaware of the honor and recognition which is his today through his legacy of public service, professional dedication, personal devotion, and outstanding accomplishments as a Texas patriot.

Medicine and the law

LEGISLATIVE CHANGES IN CONSENT FOR MEDICAL TREATMENT OF MINORS

The 63rd Session of the Texas Legislature enacted two statutes which have an impact on the required consent necessary for medical treatment of a minor (formerly under 21 years of age).

The first statute relates to all persons 18 years of age or older. S.B. 123 went into effect Aug 27, 1973. It states in Section 1, that:

> "The purpose of this act is to extend all the rights, privileges, and obligations of majority to all persons who are at least 18 years of age. It shall be construed liberally to accomplish that purpose."

Section 2 of that act states that:

> "Not withstanding any statutory or decisional law, or any rule, regulation, or ordinance of this state or of any political subdivision or incorporated city or town of this state, a person who is at least 18 years of age has all the rights, privileges, and obligations of a person who is 21 years of age. A law, rule, regulation, or ordinance which extends their rights, privilege or obligation to a person on the basis of minimum age 21, 20, or 19 years shall be interpreted as prescribing a minimum age of 18 years."

This means that both males and females in Texas are now considered minors only until they reach the age of 18 years, unless they are married or by proper court action are accorded the legal privileges and responsibilities of adulthood prior to age 18. Therefore, the physician does not have to secure under non-emergency conditions the consent of anyone other than the patient who is 18 years of age or over for examination or treatment. This means that the physician, under non-emergency conditions, must obtain consent from parents or guardians of a person under 18 years of age for examination or treatment unless the statutes make an exception to this general rule.

A minor under 18 years of age can by statute give consent and be examined and treated for venereal disease, a premarital examination which is necessary prior to the granting of a marriage license and for drug addiction, drug dependency, and any other condition directly related to drug use.

While the statutes of the State of Texas do not prohibit the prescribing or rendering of medical care for a person under 18 years of age without parental consent, the physician is not protected from possible suit by the parents or guardian, etc., except under emergency situations, unless the proper consent is obtained.

If a minor is married, Texas law considers that person to be vested with the legal privileges and responsibilities of adulthood and the person can contract just as any other adult. Marriage below the age of 16 years for the male and 14 years for the female is voidable and therefore subject to dissolution. However, a physician is generally protected if the patient granting the consent is married.

While the law extends all rights and privileges to persons 18 years of age and above, by the same token it requires that persons 18 years of age and above meet the obligations of majority. That is, patients 18 years of age and above are able to contract and as a necessary consequence are required by law to fulfill the monetary obligations and conditions due under those contracts.

The statute of limitations on minors now begins to run at the 18th birthday rather than the 21st birthday.

Regardless of the propriety of such a statute, the lowering of the majorityhood from 21 to 18 years of age removed many obstacles insofar as the physician is concerned for the necessary consent and proper medical treatment of 18 to 21 year old persons.

The other act concerning this subject is S. B. 168, which amends Section 3.55 of Title 2 of the Family Code. This act does not become effective until Jan 1, 1974.

This chapter states in Section 35.01 that when a person having the power to consent for medical treatment of a minor cannot be contacted and actual notice to the contrary has not been given by that person, then

any of the following can give consent: (1) a grandparent; (2) an adult brother or sister; (3) an adult aunt or uncle; (4) an educational institution in which the minor is enrolled that has received written authorization to consent from the person having the power to consent as otherwise provided by law; (5) any adult who has care and control of the minor and has written authorization to consent from the person having the power to consent as otherwise provided by law; or (6) any court having jurisdiction of the child.

Section 35.02 of the new law states that the consent given under authority of the above section shall be in writing, signed by the person giving consent, and given to the doctor, hospital, or other medical facility that administers the treatment. The law further states that the consent must contain: (1) the name of the minor; (2) the name of one or both parents, if known, and the name of the managing conservator or guardian of the person, if either has been appointed; (3) the name of the person giving consent and his relation to the minor child; (4) a statement of the nature of the medical treatment to be given, and (5) the date on which the treatment is to begin.

Section 35.03 (A) relates to those areas where a minor (less than 18 years of age) may consent to the furnishing of hospital, medical, surgical, and dental care by a licensed physician or dentist if the minor: (1) is on active duty with the armed services of the United States; or (2) is 16 years of age or older and resides separate and apart from his parents, managing conservator or guardian, whether with or without the consent of the parents, managing conservator or guardian and regardless of the duration of such residence, and is managing his own financial affairs, regardless of the source of the income; or (3) consents to the diagnosis and treatment of any infectious, contagious, or communicable disease which is required by law or regulations adopted pursuant to law to be reported by the licensed physician or dentist to a local health officer; or (4) is unmarried and pregnant, and consents to hospital, medical or surgical treatment, other than abortion, related to her pregnancy; or (5) is 18 years of age or older and consents to the donation of his blood and the penetration of tissue necessary to accomplish the donation; or (6) consents to examination and treatment for drug addiction, drug dependency, or any other condition directly related to drug use.

Section B of the act states that the consent by a minor, who falls into at least one of the categories, to a hospital, medical, surgical, or dental treatment is not subject to disaffirmance because of minorityhood.

Consent of the parents, managing conservator, or guardian of a minor is not necessary in order to authorize hospital, medical, surgical or dental care under the previous section.

Under the section a licensed physician or dentist may, with or without the consent of a minor who is a patient, advise the parents, managing conservator or guardian of the minor regarding the treatment given to or needed by the minor.

Under the section a physician or dentist licensed to practice medicine or dentistry in this state or a hospital or medical facility shall not be liable for the examination and treatment of minors except for his or its own acts or negligence.

Also under the section a physician, dentist, hospital, or medical facility may rely on the written statement of the minor containing grounds on which the minor has capacity to consent to his own medical treatment.

The two described acts, one effective Aug 27, 1973, one effective Jan 1, 1974, together will remove many impediments and confusion surrounding the treatment and the necessary consent required for minors in the State of Texas.

Office of TMA General Counsel
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Medicine in literature

Instructional Course Lectures, vol. 21, The American Academy of Orthopaedic Surgeons, 515 p., illus., St. Louis, C. V. Mosby, $22.50.

A COLLECTION OF INFORMATION from a group of courses and symposiums presented at the American Academy of Orthopaedic Surgeons' 1971 meeting, this volume was prepared by the Instructional Course Committee of the academy. The content, says the committee, was chosen to represent the more useful and popular techniques of operative orthopedics as well as pertinent subjects in areas of basic science related to orthopedics.
Topics include prevention and therapy of pyogenic infections in orthopedics; management of chronic orthopedic pain problems, hysterical backache, congenital dislocation of hip in infancy, treatment of slipped upper femoral epiphysis, hallux valgus, prenatal development of the human hip joint, femur, and hip bone, and treatment of the stiff hand, and flexible implant arthroplasty in the fingers.

IN THE TMA LIBRARY

Alexander JW, Good RA: *Immunobiology for Surgeons,* Philadelphia, W. B. Saunders, 1970.

American Medical Association Committee on Human Sexuality: *Human Sexuality,* Chicago, AMA, 1972.

Chasteen ER: *The Case for Compulsory Birth Control,* Englewood Cliffs, N.J., Prentice-Hall, 1971.

DePalma AF: *Surgery of the Shoulder,* ed. 2, Philadelphia, J. B. Lippincott, 1973.

Ehrlich GE, ed.: *Total Management of the Arthritic Patient,* Philadelphia, J. B. Lippincott, 1973.

Personals

DR. TRUMAN BLOCKER, president of The University of Texas Medical Branch for more than eight years, will retire Aug. 31, 1974. Dr. Blocker will retain his faculty status and will be designated President Emeritus of the medical branch at that time. Also, at the request and recommendation of the Galveston faculty, Dr. Blocker was designated an Ashbel-Smith professor of surgery, effective Sept. 1, 1973.

The President's Committee on Employment of the Handicapped presented its "Physician of the Year" award to DR. DUANE L. LARSON of The University of Texas Medical Branch at Galveston. The presentation was made at the American Medical Association's 33rd Congress on Occupational Health in Philadelphia.

DR. DONALD S. GREENBERG has been elected president of the Houston Society of Clinical Pathologists.

DR. RICHARD PLUMB has been named president of the Harris County Academy of Pediatrics.

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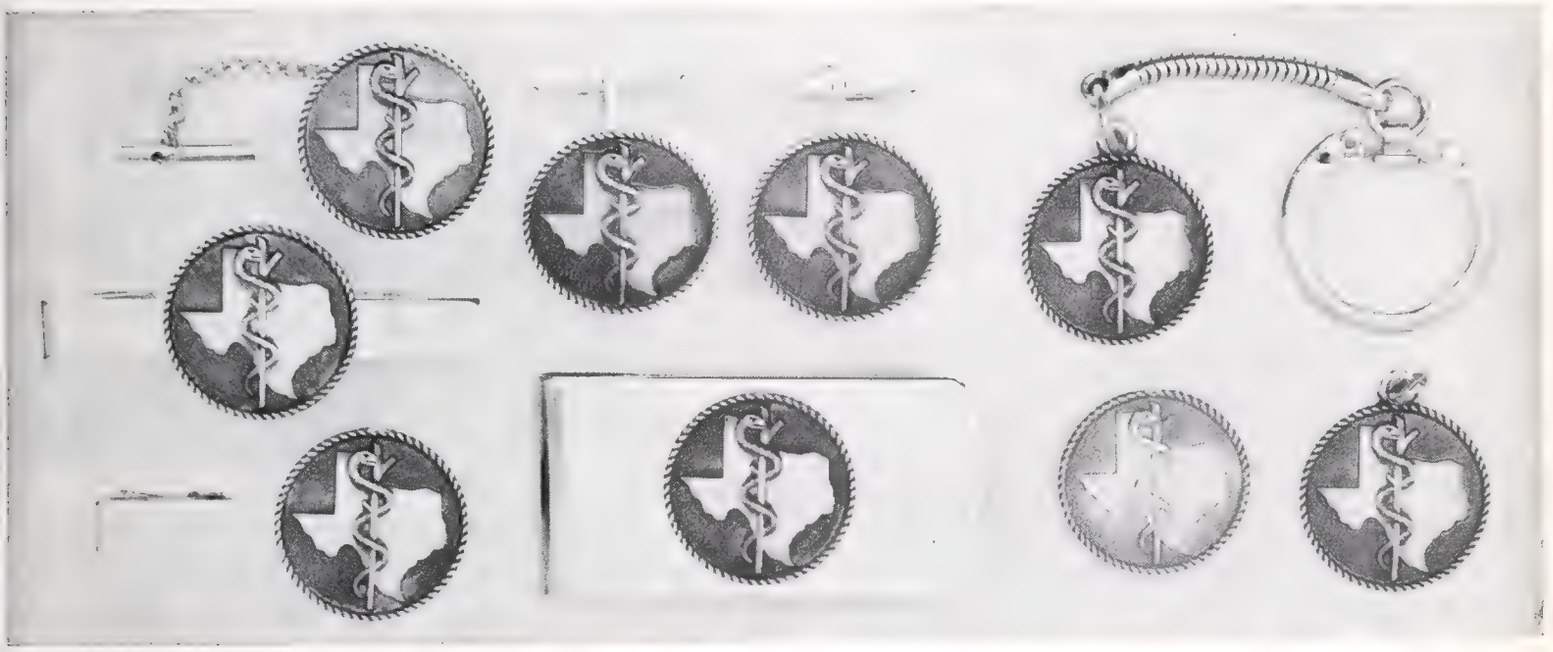

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RECENTLY DECEASED MEMBERS OF THE TEXAS MEDICAL ASSOCIATION

L. C. ARNIM
Corpus Christi, 1905-1973

H. A. BARNETT
Houston, 1926-1973

J. S. BOLING
Lubbock, 1917-1973

L. G. CIGARROA
Laredo, 1922-1973

R. N. McLEAN
Waxahachie, 1913-1973

M. H. METZ
Dallas, 1909-1973

J. T. OLIVER
Houston, 1881-1973

W. T. ROBINSON
Dallas, 1885-1973

H. A. SCHMIDT
Texas City, 1910-1972

E. C. THOMASON
Corpus Christi, 1911-1973

D. D. WARREN
Waco, 1894-1973

IN MEMORIAM

The Memorial Library of the Texas Medical Association stands as a permanent memorial to physicians who have served their patients, their profession, and the people of Texas so faithfully over the years.

The Library ranks as one of the finest in the nation. It is providing more than 10,000 reference requests, 3,500 tapes and cassettes, and 2,500 films each year to physicians, students, and to those seeking information related to medicine and health care. The resources of the Library include 60,000 volumes, 400 tapes, and 300 scientific and lay films; more than 1,300 professional journals are received monthly. Services are provided without charge.

Contributions to the Texas Medical Memorial Library Fund are invested in a permanent fund and are managed by the Board of Trustees of the Texas Medical Association. Dividends are used to purchase new books and to operate the Library.

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Recent deaths

Dr. M. H. Metz
Dallas internist, Dr. Matthew Hill Metz, died March 24, 1973, of hypertension and uremia. He was 64 years old.
A native of McKinney, Dr. Metz attended Southern Methodist University in Dallas and was graduated with an MD degree from Baylor College of Medicine, Houston, in 1932. After an internship and residency at Cincinnati General Hospital, Cincinnati, Dr. Metz joined the staff of Baylor College of Medicine as an instructor in physiology. In 1938, Dr. Metz received the Distinguished Service Award from the US Junior Chamber of Commerce for work in the field of gastroenterology.
He was a Fellow of American College of Physicians and a member of Dallas County Medical Society, Texas Medical Association, and American Medical Association.
Dr. Metz is survived by his wife, Dorothy Bell Metz; son, Morgan Hill Metz; and daughter, Mrs. Susan Hawkins, all of Dallas.

Dr. L. G. Cigarroa
Laredo surgeon and Texas educator, Dr. Leonides Gonzalez Cigarroa died June 19, 1973, in a Dallas hospital. Cerebral hemorrhage caused the death of the 50-year-old physician.
A graduate of Loyola University Stritch School of Medicine, Chicago, Ill., Dr. Cigarroa completed an internship and residency at Cook County Hospital, Chicago, before returning to Laredo to establish his practice.
Dr. Cigarroa was certified by the American Board of Surgery and held memberships in American College of Surgeons, International College of Surgeons, American Geriatrics Society, Texas Medical Association, and American Medical Association. He also had served as secretary for Webb-Zapata-Jim Hogg County Medical Society. At the time of his death, Dr. Cigarroa was an assistant professor at The University of Texas Medical School at San Antonio.
The physician is survived by his wife, Dr. Margaret Giller Cigarroa; two sons, Joaquin Gonzalez Cigarroa, III, and Leonides Gonzalez Cigarroa; four daughters, Mary Margaret Cigarroa, Jane Elizabeth Cigarroa, Ruth Ann Cigarroa, and Martha Louise Cigarroa; his mother, Mrs. Josefina Gonzalez Cigarroa; a brother, Dr. Joaquin Gonzalez Cigarroa, Jr., and one sister, Mrs. Marco Uribe; all of Laredo.

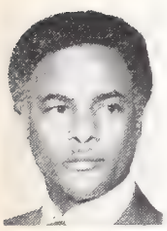
Dr. Metz

Dr. Robinson

Dr. W. T. Robinson
Retired Dallas obstetrician, Dr. Wayne Turrentine Robinson, 88, died April 17, 1973, in Dallas. Dr. Robinson had been a member of Texas Medical Association for 48 years.
Born in Tennessee in 1885, Dr. Robinson decided to enter medical school when he was 17 years old. He walked 150 miles to the University of Chattanooga where he did his pre-med studies, and then entered Vanderbilt University School of Medicine where he was graduated with an MD degree in 1908. After an internship and residency at Bellevue Hospital, New York City, Dr. Robinson returned to Tennessee where he practiced until moving to Dallas in 1924.
During his medical career, Dr. Robinson delivered an estimated 10,000 babies, most of them after he moved to Dallas. He was formerly associate professor of obstetrics at Baylor College of Medicine (then located in Dallas) and The University of Texas Southwestern Medical School, Dallas. He also served as chief obstetrician at both Parkland Memorial Hospital and Methodist Hospital of Dallas. Dr. Robinson

Dr. Arnim

Dr. Oliver


Dr. Barnett

retired in 1967.
A past vice-president of Dallas County Medical Society, Dr. Robinson also held memberships in Tennessee Medical Association, Texas Medical Association, American Medical Association, Dallas Southern Clinical Society, and was a charter member of American College of Obstetricians and Gynecologists.
The physician is survived by his daughter, Mrs. Lucile Addington, Dallas; and one brother, Dr. Fount Robinson, Oxford, Pa.

Dr. L. C. Arnim
Landon Carlin Arnim, Corpus Christi obstetrician-gynecologist, died of a sudden illness June 22, 1973. He was 68 years old.
Dr. Arnim received his preliminary education in Corpus Christi and Marion, Ala., and was a graduate of Tulane University School of Medicine, New Orleans. After completing internships at Scott & White Hospital, Temple, and Woman's Hospital, Detroit, Dr. Arnim returned to Corpus Christi to begin his practice as one of the first specialists in obstetrics and gynecology in the area.
Elected to honorary status in the Texas Medical Association this year, Dr. Arnim also held memberships in Texas Association of Obstetricians and Gynecologists, American College of Obstetricians and Gynecologists, American College of Surgeons, Nueces County Medical Society, and American Medical Association.
The physician is survived by his wife, Madeline Martin Arnim; a daughter, Carolyn Margaret Arnim, both of Corpus Christi; and a brother, V. T. Arnim, Indian Rocks Beach, Fla.

Dr. J. T. Oliver
John Thomas Oliver, retired Houston family physician, died May 24, 1973, at the age of 92.
A native of Texas, Dr. Oliver received his preliminary education at Coronal Institute, San Marcos. He was graduated with an MD degree from The University of Texas Medical Branch at Galveston in 1905. After short practices in Martindale (1906-1907), Galveston (1908-1910), and Seabrook (1910-1915), Dr. Oliver settled in Houston where he remained until his death. He retired from medical practice in 1972.
Dr. Oliver has been a member of the Texas Medical Association since 1919, and was elected to honorary membership in 1965. He was also a member of Harris County Medical Society and American Medical Association.
Dr. Oliver is survived by a daughter, Mrs. Vivian Marie Cochran, Friendswood, Tex.; two sons, Dr. John Stanley Oliver, and Victor Thomas Oliver, DDS, both of Houston; nine grandchildren and eleven great-grandchildren.

Dr. H. A. Barnett
Herman Aladdin Barnett, Houston anesthesiologist and first Negro named to the State Board of Medical Examiners, died May 27, 1973, when his private plane crashed in Wichita, Kans.
Born Jan. 22, 1926, Dr. Barnett received his preliminary education in Austin, and earned a BS degree in 1949 from Samuel Huston College, Austin (now Huston-Tillotson College). He was graduated from The University of Texas Medical Branch at Galveston with an MD degree in 1953, and served both an internship (1953-1954) and residency (1954-1958)

at The University of Texas Medical Branch Hospitals in Galveston. He had previously served with the US Army Air Corps as a flight officer from 1944 to 1946.
After a short practice in La Marque, Dr. Barnett moved his office to Houston in 1961, where he continued in private practice until his death.
Dr. Barnett was a member of Harris County Medical Society, National Medical Association, Houston Medical Forum, Mu Delta Honorary Medical Service Society, and Texas Medical Association.
The physician is survived by his wife, Wylma Lynn White Barnett; three sons, Herman A. Barnett, IV, Marcus Barnett, and Keith Davol Barnett; two daughters, Lynn-Etta Kay Barnett and April Michelle Barnett; all of Houston; and mother, Mrs. Lula V. Byars, Lockhart, Tex.

Dr. R. N. McLean

Dr. Raymond Nash McLean, Waxahachie internist, died May 10, 1973, of a stroke. He was 60.
A Waco native, Dr. McLean earned a BA from Baylor University, and an MS from Texas A & M University. He received an MD degree from Baylor College of Medicine, Houston, and interned at Nashville Metropolitan General Hospital, Nashville, Tenn. After a residency at Methodist Hospital, Houston, Dr. McLean did postgraduate work at Cook County Graduate School of Medicine, Chicago. He moved to Waxahachie in 1952 to practice internal medicine.
A past president of Ellis County Medical Society, Dr. McLean was a member of American College of Chest Physicians, Texas Medical Association, American Medical Association, Texas Diabetes Association, and American Heart Association.
He is survived by his wife, Margaret Rouse McLean; daughter, June McLean; son, Jeff McLean; all of Waxahachie; and three brothers, R. G. McLean, Groesbeck, H. R. McLean, Waco, and W. D. McLean, Amarillo.

Dr. McLean

Dr. H. A. Schmidt

Texas City family physician since 1942, Dr. Henry August Schmidt died Dec. 24, 1972. Cause of death was arteriosclerotic cardiovascular disease with myocardial infarction.
Born in 1910, Dr. Schmidt completed his preliminary education in Giddings, Tex., before entering The University of Texas at Austin where he received a BA degree. He earned an MD degree from The University of Texas Medical Branch at Galveston, graduating sixth in his class, and completed an internship and residency at Jefferson Davis Hospital, Houston, in 1941. Dr. Schmidt did postgraduate work at The University of Houston periodically from 1953 until his death.
Dr. Schmidt was a member of Galveston County Medical Society, Texas Academy of Family Physicians, American Academy of Family Physicians, Texas Medical Association, and American Medical Association.
The physician is survived by his wife, Marjorie Newsom Schmidt, Texas City; one son, Jan Schmidt, San Diego, Calif., and one daughter, Diedra Schmidt McEntire, Texas City; one brother, Otto W. Schmidt, Jr., Houston; and one sister, Mrs. Louise Adkins, Giddings.

Dr. Schmidt

Dr. J. S. Boling

John Stephen Boling, Lubbock anesthesiologist, died July 4, 1973, in Methodist Hospital, Lubbock. He was 56 years old.

Dr. Boling

Dr. Warren

Dr. Boling received pre-med training at Roanoke College, Salem, Va, where he earned a BS degree. He received an MD degree from George Washington University School of Medicine, Washington, DC. After serving in the US Army during World War II, Dr. Boling settled in Grantsville, WVa, where he was a family physician for eight years. He returned to George Washington University Hospital and completed a two-year residency in anesthesiology before moving to Lubbock in 1956.

He was a member of Lubbock-Crosby-Garza County Medical Society, American Society of Anesthesiologists, Texas Society of Anesthesiologists, International Anesthesia Research Society, and Texas Medical Association, and was certified by the American Board of Anesthesiology.

The physician is survived by his wife, Van Pruett Boling; one son, Johnny, both of Lubbock; and two daughters, Susan Boling, Houston, and Mrs. Margaret Dennis, Lubbock.

Dr. D. D. Warren

Daniel Davis Warren, retired Waco internist, died May 20, 1973, in Graham Hospital, Graham, Texas. He was 79 years old.

Born in Grangeville, La, Dr. Warren attended Mississippi State Teachers College (now University of Southern Mississippi), Hattiesburg, Miss. He was graduated from Tulane University, New Orleans, with a BS degree in 1923, and received an MD degree from Tulane University School of Medicine, New Orleans, in 1925. After an internship at Touro Infirmary in New Orleans from 1925 to 1926, Dr. Warren was an assistant in medicine at Tulane University where he took a graduate course in physiology of the heart and electrocardiography. He served as clinical assistant in internal medicine at Touro Infirmary outpatient department from 1926 to 1929, and in 1929, he moved to Waco to enter private practice. Dr. Warren retired in 1969.

Elected to honorary membership in Texas Medical Association in 1970, Dr. Warren also held memberships in McLennan County Medical Society, American College of Physicians, and American Medical Association.

Dr. Warren is survived by his wife, Ethel R. Gastrell Warren; a daughter, Mrs. Barbara Bachman, South Bend, Texas; two sons, Daniel Warren, Dallas, and Tom Warren, Broomall, Pa; and seven grandchildren.

Dr. E. C. Thomason

Dr. Elizabeth Chaney Thomason, Corpus Christi ophthalmologist since 1949, died July 24, 1973.

Dr. Thomason received a BS degree from the University of Wisconsin, Madison, and an MD degree from the University of Wisconsin School of Medicine. She interned at Chicago Maternity Center and Baltimore City Hospitals, and completed an externship in ophthalmology at Baltimore City Hospitals. After practicing in Huntsville for six years, Dr. Thomason moved to Corpus Christi.

Dr. Thomason was a member of American Geriatrics Society, Nueces County Medical Society, Texas Medical Association, and American Medical Association.

She is survived by her husband, Dr. Robert H. Thomason, Corpus Christi; and two daughters, Carolyn Succhi, Houston, and Zaidee Winton, Corpus Christi.

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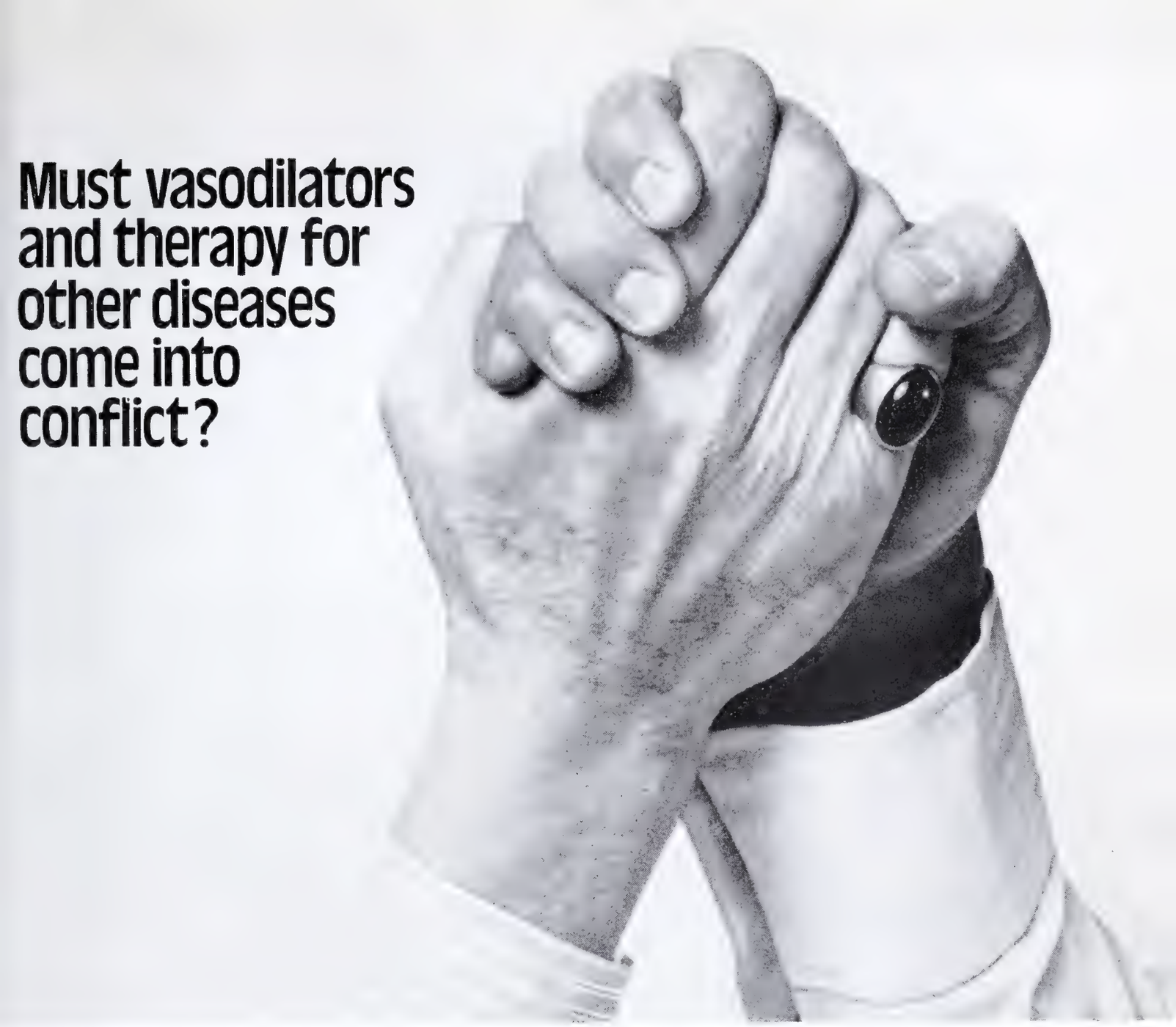
Must vasodilators and therapy for other diseases come into conflict?



not if the vasodilator is

VASODILAN®
(ISOXSUPRINE HCl)

the compatible vasodilator... no treatment conflicts reported

The cerebral or peripheral vascular disease patient often has coexisting disease[1] which calls for another drug along with his vasodilator. It may be a hypoglycemic, miotic, antihypertensive, diuretic, anticoagulant, corticosteroid, or coronary vasodilator.

Vasodilan is not incompatible with any of these drugs—no treatment conflict has been reported. And, unlike other vasodilators, Vasodilan has not been reported to affect carbohydrate metabolism, liver function, or intraocular pressure—or to complicate treatment of diabetes, hypertension, peptic ulcer, glaucoma, or liver disease.

In fact, there are no known contraindications to the use of Vasodilan in recommended oral doses, other than that it should not be given in the presence of frank arterial bleeding or immediately postpartum.

1. Gertler, M. M., et al.: Geriatrics *25*:134-148 (May) 1970.

Indications: Based on a review of this drug by the National Academy of Sciences-National Research Council and/or other information, the FDA has classified the indications as follows:

Possibly Effective:

1. For the relief of symptoms associated with cerebral vascular insufficiency.
2. In peripheral vascular disease of arteriosclerosis obliterans, thromboangiitis obliterans (Buerger's Disease) and Raynaud's disease.
3. Threatened abortion.

Final classification of the less-than-effective indications requires further investigation.

Composition: Vasodilan tablets, isoxsuprine HCl, 10 mg. and 20 mg.

Dosage and Administration: 10 to 20 mg. three or four times daily.

Contraindications and Cautions: There are no known contraindications to oral use when administered in recommended doses. Should not be given immediately postpartum or in the presence of arterial bleeding.

Adverse Reactions: On rare occasions, oral administration of the drug has been associated in time with the occurrence of severe rash. When rash appears, the drug should be discontinued. Occasional overdosage effects such as transient palpitation or dizziness are usually controlled by reducing the dose.

Supplied: Tablets, 10 mg.—bottles of 100, 1000, 5000 and Unit Dose; 20 mg.—bottles of 100, 500 and Unit Dose.

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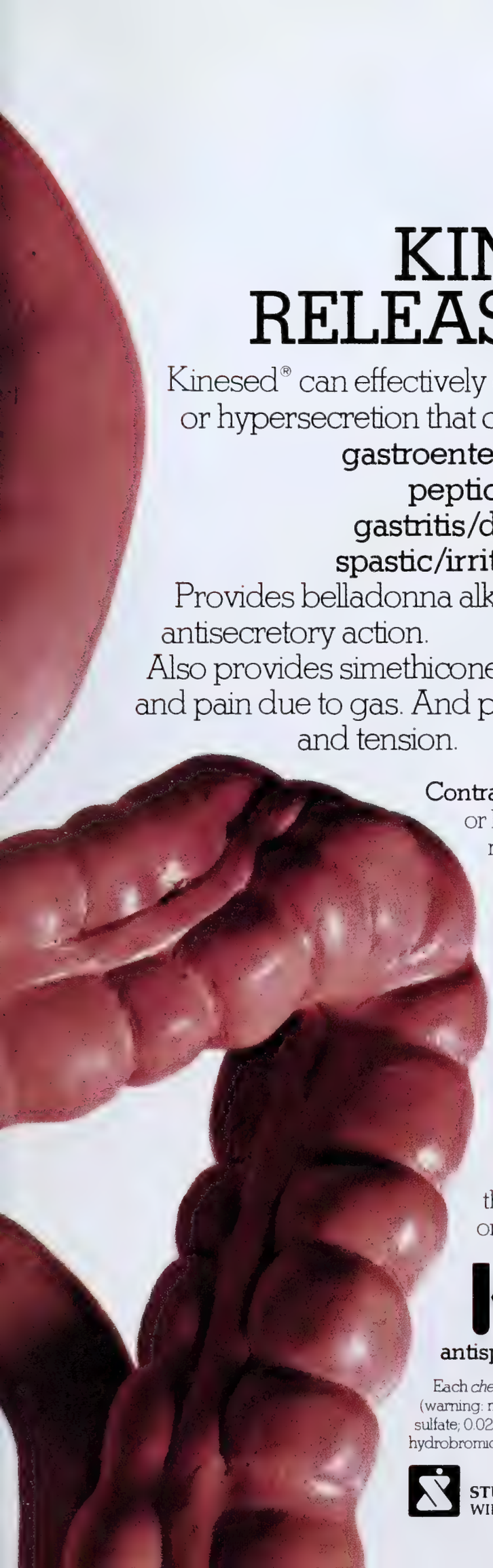
IS ON...



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Provides belladonna alkaloids for potent antispasmodic and antisecretory action.

Also provides simethicone for accompanying distention and pain due to gas. And phenobarbital—for associated anxiety and tension.

Contraindications: Hypersensitivity to barbiturates or belladonna alkaloids, glaucoma, advanced renal or hepatic disease.

Precautions: Administer with caution to patients with incipient glaucoma, bladder neck obstruction or urinary bladder atony. Prolonged use of barbiturates may be habit-forming.

Side effects: Blurred vision, dry mouth, dysuria, and other atropine-like side effects may occur at high doses, but are only rarely noted at recommended dosages.

Dosage: *Adults:* One or two tablets three or four times daily. Dosage can be adjusted depending on diagnosis and severity of symptoms.

Children 2 to 12 years: One-half or one tablet three or four times daily. Tablets may be chewed or swallowed with liquids.

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Each *chewable tablet* contains: 16 mg. phenobarbital (warning: may be habit-forming); 0.1 mg. hyoscyamine sulfate; 0.02 mg. atropine sulfate, 0.007 mg. scopolamine hydrobromide; 40 mg. simethicone

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Integument!

Our skin—the human integument—covers us, defines us, protects us. But skin is subject to cuts, burns, abrasions. And infections. Neosporin Ointment fights infection by providing broad antibacterial action against susceptible skin invaders. It contains antibiotics that are rarely used systemically, reducing the risk of sensitization.

INDICATIONS: *Therapeutically*, used as an adjunct to appropriate systemic therapy for topical infections, primary or secondary, due to susceptible organisms, as in: • infected burns, skin grafts, surgical incisions, otitis externa • primary pyodermas (impetigo, ecthyma, sycosis vulgaris, paronychia) • secondarily infected dermatoses (eczema, herpes, and seborrheic dermatitis) • traumatic lesions, inflamed or suppurating as a result of bacterial infection.

Prophylactically, the ointment may be used to prevent bacterial contamination in burns, skin grafts, incisions, and other clean lesions. For abrasions, minor cuts and wounds accidentally incurred, its use may prevent the development of infection and permit wound healing.

CONTRAINDICATIONS: Not for use in the external ear canal if the eardrum is perforated. This product is contraindicated in those individuals who have shown hypersensitivity to any of the components.

PRECAUTION: As with other antibiotic preparations, prolonged use may result in overgrowth of nonsusceptible organisms and/or fungi. Appropriate measures should be taken if this occurs. Articles in the current medical literature indicate an increase in the prevalence of persons allergic to neomycin. The possibility of such a reaction should be borne in mind.

Complete literature available on request from Professional Services Dept. PML.

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Each gram contains: Aerosporin® brand Polymyxin B Sulfate 5,000 units; zinc bacitracin 400 units; neomycin sulfate 5 mg. (equivalent to 3.5 mg. neomycin base); special white petrolatum q.s. In tubes of 1 oz. and ½ oz. and $\frac{1}{32}$ oz. (approx.) foil packets.

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Opinion & Dialogue

"Prescription drugs – who should determine the maker?"

Dispenser of Medicine

Clifton J. Latiolais
President
American Pharmaceutical Association

"Too many doctors are indiffe ent to the economic consequences their decisions." So stated a recen issue of *Medical News Report* (De cember 4, 1972), an independent weekly newsletter published by for AMA Chief Executive F. J. L. Blasin game, M.D.

Doctor, are you indifferent...?

In discussing an anticipated i crease in Blue Shield rates, Dr. Bla ingame's newsletter had this to say

"In general, it can be said, MD have given the impression they are not particularly concerned with the increase in cost of health care to th patients...

"True, an MD's training is pri marily scientific, but in the real wo of practice, all of his scientific deci sions have a price tag, or an econor impact. The economics of health ca beckon the practitioner's attention Concern for economics of medicine

Maker of Medicine

C. Joseph Stetler
President
Pharmaceutical Manufacturers Association

When the pharmacist recom mends that a drug product other th the one ordered be dispensed, the prescriber invariably permits the change when he feels the best inter ests of the patient will be served.

Shortcomings of Pro-Substitution Argument

The fact remains that it is nec sary for the prescriber to know that the change is being contemplated, and to be in a position to consent or demur. Without that opportunity, th unilateral decision of the pharmacis made in the absence of clinical kno edge of the patient, could expose hi to needless risks, and in addition, jeopardize the relationship between the professions of Pharmacy and Medicine. In my view, there is nothi in the pro-substitution argument tha offsets these risks.

The Issue of Drug Knowledge

Substitution advocates claim that the primary justification for changing the rules is the desire to better utilize pharmacists' knowledg about drugs. Yet the pharmacist's task to keep current on the entire field of drug therapy, to some degre puts him at a disadvantage. Most often, a practicing physician will nee expert knowledge of no more than 2

Advertisement

ıould be an obligation of medical ractice...

"Medical societies ought to conıct continuing campaigns to point ıt the substantial savings that could e realized thru deductible insurance ıd protection for catastrophic illess. At the very least, they should, in ıe patients' interest, question the ctics of any insurance organization ıat raises health care costs by forcg policyholders to buy insurance ey may not need or want and probly won't ever use.

"Too many doctors are indifferıt to the economic consequences of ieir decisions. Too many, for exmple, habitually hospitalize patients r the convenience of the MD. It's onsense to deny such habits exist...

"Doctors, thru their medical soieties, have unhesitatingly appealed) their patients for support in the ght against government interference ith the private practice of medicine. nd the public in the past has reponded. It's time the American Medal Association and state and local ıedical societies paid off the debt by ecisive action to hold down the cost f medical care."

ost of Drugs

Insurance rates and hospital harges are only two factors in health care costs. The cost of drugs—both prescription and nonprescription—is another.

And when it comes to drug costs, the nation's pharmacists *are concerned*. Through their national professional society, the American Pharmaceutical Association, pharmacists are advising the public to use nonprescription medication cautiously and conservatively, and to seek the advice of their pharmacist before selecting or purchasing such drugs.

Outdated Laws

The pharmacist also is aware that when it comes to prescription drugs, often he has an even greater opportunity to reduce the cost to the patient—with no sacrifice in the quality of the medication dispensed. But in many states, outdated and antiquated laws prevent the pharmacist from engaging in drug product selection. "Drug product selection" simply means that the pharmacist functions in the patient's interest by consciously choosing, from the multiple brands available, a low-cost quality brand of the specific drug to be dispensed in response to the physician's prescription order.

Much *misinformation* has been purposely spread by those who stand to gain financially by maintaining high drug costs to the public. An endless stream of propaganda has emanated from the drug industry in an effort to persuade the medical profession that these so-called anti-substitution laws should be retained. And as long as these laws are retained, the drug industry will continue its current marketing practices which contribute unnecessarily to high drug costs to patients. These practices also are inviting government agencies to expand their restrictive controls on physicians and pharmacists.

APhA Efforts

As pharmacists, we are concerned about health care costs. We hope that every physician shares our concern on this vital issue, and will give his personal support to the constructive efforts APhA has undertaken in the interest of all patients.

(For a complete discussion of drug product selection, you are invited to request a free copy of the "White Paper on the Pharmacist's Role in Product Selection" from: American Pharmaceutical Association, 2215 Constitution Avenue, N.W., Washington, D.C. 20037.)

---

r 30 drugs that he selects to treat the ıajority of conditions encountered in ıis practice. Moreover, the physiian's choice of a specific brand is ased on his knowledge of the paient's medical history and current ondition, and his experiences with he particular manufacturer's roduct.

Some substitution proponents ıave argued that the dispensing of a rescription is a simple two-party ransaction between the pharmacist ınd the patient, and that a substitutng pharmacist may avoid even a echnical breach of contract by simply ıotifying the patient that he is making he substitution. I would judge that ew courts would be sympathetic oward a pharmacist who substituted without physician approval and who undertook a legal defense that seeks to make the patient responsible for the pharmacist's actions.

Reduced Prescription Prices?

Substitution advocates are suggesting to the consumer, and particularly the consumer activist, that reduced prescription prices could follow legalization of substitution. We have seen absolutely no evidence to justify this claim. To the contrary, experience in Alberta, Canada, where substitution is authorized, suggests the opposite.

Many pharmacists understandably are concerned about the cost of maintaining multiple stocks of similar products. While there is no doubt that inventory costs rise when additional brands are stocked, it would be interesting to know how much they rise, and how many pharmacists actually stock *all* brands—of, say, ampicillin or tetracycline—or how long they keep "slow moving" products on their shelves before they are returned for credit. To ask that the industry eliminate multiple sources is to ask competitors to stop competing.

Drug Substitution—A License for the Unethical

Anti-substitution repeal would favor "corner cutting" pharmacists and manufacturers. For them, free substitution would be not a right, but a license. As an aftermath, it is quite likely that the confidence of both physicians and patients in the profession of Pharmacy would be eroded, as revelations about the unconscionable behavior of an undisciplined few were magnified in the press or in professional circles.

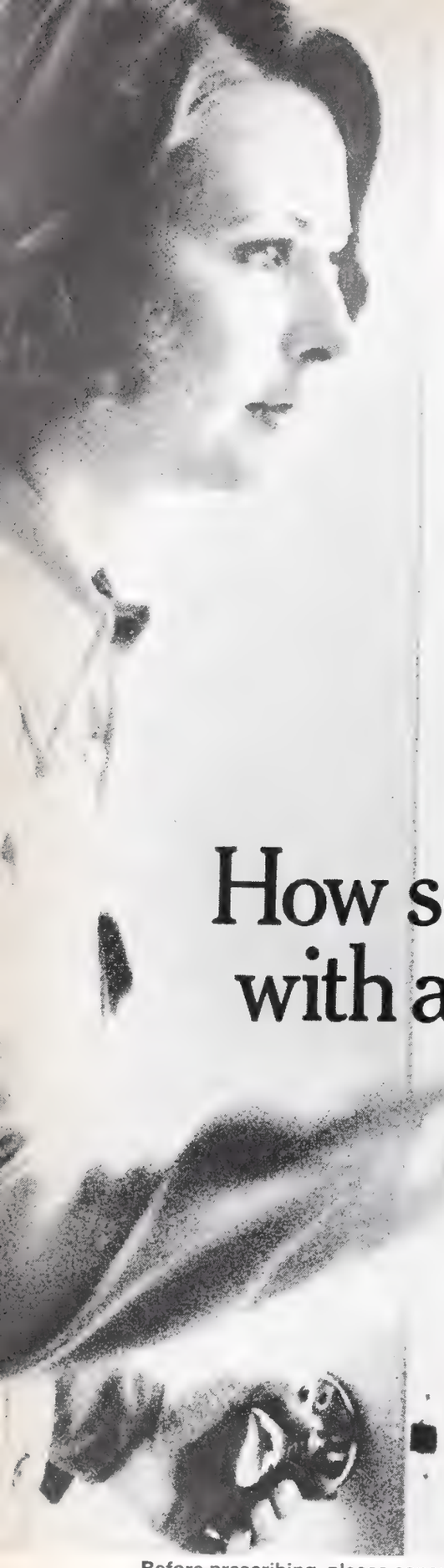
Summary

In short, what the American Pharmaceutical Association advocates as a broad-spectrum panacea looks to us to be not only a minority view (advocacy of substitution is by no means a uniform policy in Pharmacy), but also an extraordinarily costly and ineffective remedy, whose side effects are odious. We believe (1) that an impressive majority of pharmacists prefer to work with Medicine and with industry, for the consumer, and for the general good, (2) that they seek the privilege to substitute when the patient might gain and when the patient's doctor agrees, and (3) that they seek to work for the resolution of genuine grievances openly and professionally.

(For amplification of PMA views, please write for our booklet, "The Medications Physicians Prescribe: Who Shall Determine the Source?" It is available from: Pharmaceutical Manufacturers Association, 1155 Fifteenth Street, N.W., Washington, D.C. 20005.)

Pharmaceutical Manufacturers Association 1155 Fifteenth Street, N.W. Washington, D.C. 20005

P·M·A



How soon will she drop in with a recurrent cystitis...

Success in preventing recurrence of urinary tract infection usually depends on success in treating the initial infection. And that in turn is closely linked to factors of proper drug, proper dosage, and *proper length of therapy*. Much of the effectiveness of an antibacterial agent used to treat an acute nonobstructed urinary tract infection depends, in fact, upon proper length of therapy. As you know, it is potentially hazardous for a patient to discontinue her medication too soon; on the other hand, overtreatment has no advantage and may even cause adverse reactions.

Total therapy: 14 days

Some recent studies suggest that therapy in acute nonobstructed urinary tract infections should be continued for 10 to 14 days even if patients become asymptoma in 2 or 3 days, as they often do. After inadequate treatment, of course, survival of bacteria can cause a quick recurrence of infection.

The problem of persuadin a patient to complete the full course of therapy remains diffi cult. Perhaps agreeing on the d for a follow-up examination at t end of medication may be the most effective way of convincin a less than enthusiastic patient to continue therapy even after s becomes asymptomatic.

As a urinary antibacterial Gantrisin (sulfisoxazole) Roche offers your patient important ad vantages, some of which may h increase patient cooperation.

High urinary and plasma leve

Therapeutic urinary and plasm concentrations are usually

Before prescribing, please consult complete product information, a summary of which follows:
Indications: Nonobstructed urinary tract infections (mainly cystitis, pyelitis, pyelonephritis) due to susceptible organisms.
IMPORTANT NOTE: *In vitro* sensitivity tests not always reliable; must be coordinated with bacteriological and clinical response. Add aminobenzoic acid to follow-up culture media. Increasing frequency of resistant organisms limits usefulness of antibacterial agents, especially in chronic and recurrent urinary infections. Maximum safe total sulfonamide blood level, 20 mg/100 ml; measure levels as variations may occur.
Contraindications: Hypersensitivity to sulfonamides; infants less than 2 months of age; pregnancy at term and during the nursing period.
Warnings: Safety in pregnancy not established. Do not use for Group A beta-hemolytic streptococcal infections, as sequelae (rheumatic fever, glomerulonephritis) are not prevented. Deaths reported from hypersensitivity reactions, agranulocytosis, aplastic anemia and other blood dyscrasias. Sore throat, fever, pallor, purp or jaundice may be early indications of serious blood disorders. CBC and urina with careful microscopic examination should be performed frequently.
Precautions: Use cautiously in patients with impaired renal or hepatic function severe allergy or bronchial asthma. Hem ysis, frequently dose-related, may occu in glucose-6-phosphate dehydrogenase deficient patients. Maintain adequate f intake to prevent crystalluria and stone formation.

ched in 2 to 3 hours and can be intained on the recommended 8 Gm/day dosage schedule t's convenient for almost all ients.

Generally good tolerance

ntrisin (sulfisoxazole) Roche uses relatively few undesirable ctions, and serious toxic re- ions are rare. Minor reactions comparatively infrequent, but y include nausea, headache d vomiting. Gantrisin may usu- be given safely, even for pro- ged periods, in the treatment chronic or recurrent nonob- ucted cystitis, pyelitis or elonephritis due to *E. coli* and er susceptible organisms.

(See Important Note in sum- ry of product information.)

Complete blood counts and urinalyses, with microscopic examination, should be performed frequently.

High solubility

Gantrisin is one of the most soluble of all sulfonamides, with both free and acetylated forms highly soluble in the commonly encountered urinary pH range of 5.5 to 6.5. Urine levels have been detected in 60 minutes; therapeutic levels are usually reached in 2 to 3 hours. About 90% of a single dose is excreted in 24 to 48 hours. As with all sulfonamides, adequate fluid intake must be maintained.

Economy

Average cost of therapy is still only about 6½¢ per tablet.

References: 1. Bran, J. L.; Karl, D. M., and Kaye, D.: *Clin. Pharmacol. Ther., 12*:525, 1971. **2.** Burke, E. C., and Stickler, G. B.: *Mayo Clin. Proc., 44*: 318, 1969. **3.** Hibbard, L. T., in Bulger, M. J., *et al.*: *Patient Care, 1*:(3)47, 1967. **4.** Holloway, W. J.; Furlong, J. H., and Scott, E. G.: *J. Urol., 102*:249, 1969. **5.** House, T. E., *et al.*: *Obstet. Gynecol., 34*:670, 1969. **6.** Lampe, W.T.: *J. Am. Geriatr. Soc., 16*:798, 1968. **7.** Moffat, N. A., and Wenzel, J. J.: *Curr. Ther. Res., 13*:286, 1971. **8.** Normand, I. C. S.: *Practitioner, 204*:91, 1970. **9.** Pryles, C. V.: *Med. Clin. North Am., 54*:1077, 1970. **10.** Seneca, H.; Peer, P., and Warren, B.: *J. Urol., 99*:337, 1968. **11.** Trafton, H. M., and Lind, H. E.: *J. Urol., 101*:392, 1969.

if she drops out of her therapy too soon?

For acute, chronic or recurrent nonobstructed cystitis, pyelitis, or pyelonephritis due to susceptible organisms

begin with **Gantrisin®**
sulfisoxazole/Roche®

Usual adult dosage: 4 to 8 tablets *stat*, 2 to 4 tablets *q.i.d.*

dverse Reactions: *Blood dyscrasias:* granulocytosis, aplastic anemia, thrombocytopenia, leukopenia, hemolytic anemia, purpura, hypoprothrombinemia and methemoglobinemia; *Allergic reactions:* erythema multiforme (Stevens-Johnson syndrome), generalized skin eruptions, epidermal necrolysis, urticaria, serum sickness, pruritus, exfoliative dermatitis, anaphylactoid reactions, periorbital edema, conjunctival and scleral injection, photosensitization, arthralgia and allergic myocarditis; *Gastrointestinal reactions:* Nausea, emesis, abdominal pains, hepatitis, diarrhea, anorexia, pancreatitis and stomatitis; *C.N.S. reactions:* Headache, peripheral neuritis, mental depression, convulsions, ataxia, hallucinations, tinnitus, vertigo and insomnia; *Miscellaneous reactions:* Drug fever, chills and toxic nephrosis with oliguria and anuria. Periarteritis nodosa and L.E. phenomenon have occurred. Due to certain chemical similarities with some goitrogens, diuretics (acetazolamide, thiazides) and oral hypoglycemic agents, sulfonamides have caused rare instances of goiter production, diuresis and hypoglycemia as well as thyroid malignancies in rats following long-term administration. Cross-sensitivity with these agents may exist.

Supplied: Tablets containing 0.5 Gm sulfisoxazole.

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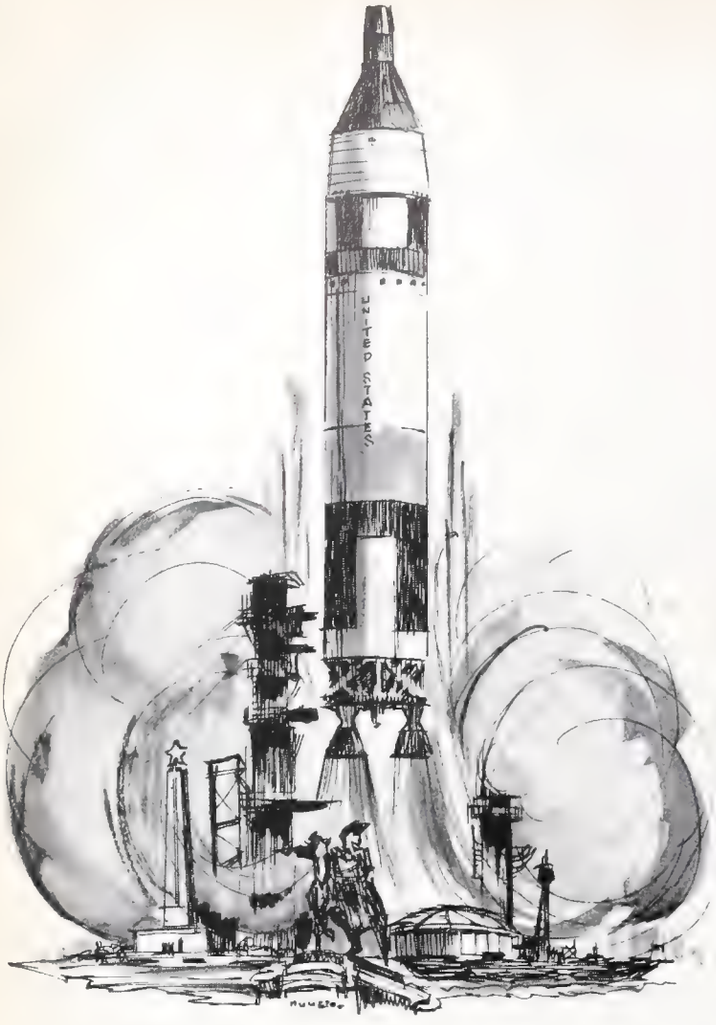

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PROLOID® (thyroglobulin)
Caution: Federal law prohibits dispensing without prescription.

Description. Proloid (thyroglobulin) is obtained from a purified extract of frozen hog thyroid. It contains the known calorigenically active components, Sodium Levothyroxine (T_4) and Sodium Liothyronine (T_3). Proloid (thyroglobulin) conforms to the primary USP specifications for desiccated thyroid—for iodine based on chemical assay—and is also biologically assayed and standardized in animals.

Chromatographic analysis to standardize the Sodium Levothyroxine and Sodium Liothyronine content of Proloid (thyroglobulin) is routinely employed.

The ratio of T_4 and T_3 in Proloid (thyroglobulin is approximately 2.5 to 1.

Proloid (thyroglobulin) is stable when stored at usual room temperature.

Indications. Proloid (thyroglobulin) is thyroid replacement therapy for conditions of inadequate endogenous thyroid production: e.g., cretinism and myxedema. Replacement therapy will be effective only in manifestations of hypothyroidism.

In simple (nontoxic) goiter, Proloid (thyroglobulin) may be tried therapeutically, in nonemergency situations, in an attempt to reduce the size of such goiters.

Contraindication. Thyroid preparations are contraindicated in the presence of uncorrected adrenal insufficiency.

Warnings. Thyroglobulin should not be used in the presence of cardiovascular disease unless thyroid-replacement therapy is clearly indicated. If the latter exists, low doses should be instituted beginning at 0.5 to 1.0 grain (32 to 64 mg) and increased by the same amount in increments at two-week intervals. This demands careful clinical judgment.

Morphologic hypogonadism and nephroses should be ruled out before the drug is administered. If hypopituitarism is present, the adrenal deficiency must be corrected prior to starting the drug.

Myxedematous patients are very sensitive to thyroid and dosage should be started at a very low level and increased gradually.

Precaution. As with all thyroid preparations this drug will alter results of thyroid function tests.

Adverse Reactions. Overdosage or too rapid increase in dosage may result in signs and symptoms of hyperthyroidism, such as menstrual irregularities, nervousness, cardiac arrhythmias, and angina pectoris.

Dosage and Administration. Optimal dosage is usually determined by the patient's clinical response. Confirmatory tests include BMR, T_3 ^{131}I resin sponge uptake, T_3 ^{131}I red cell uptake, Thyro Binding Index (TBI), and Achilles Tendon Reflex Test. Clinical experience has shown that a normal PBI (3.5-8 mcg/100 ml) will be obtained in patients made clinically euthyroid when the content of T_4 and T_3 is adequate. Dosage should be started in small amounts and increased gradually with increments at intervals of one to two weeks. Usual maintenance dose is 0.5 to 3.0 grains (32 to 190 mg) daily.

Overdosage Symptoms. Headache, instability, nervousness, sweating, tachycardia, with unusual bowel motility. Angina pectoris or congestive heart failure may be induced or aggravated. Shock may develop. Massive overdosage may result in symptoms resembling thyroid storm. Chronic excessive dosage will produce the signs and symptoms of hyperthyroidism.

(Treatment: In shock, supportive measures should be utilized. Treatment of unrecognized adrenal insufficiency should be considered.)

How Supplied. ¼ grain; ½ grain; scored 1 grain; 1½ grain; scored 2 grain; 3 grain; and scored 5 grain tablets, in bottles of 100 and 1000.

Full information available on request.

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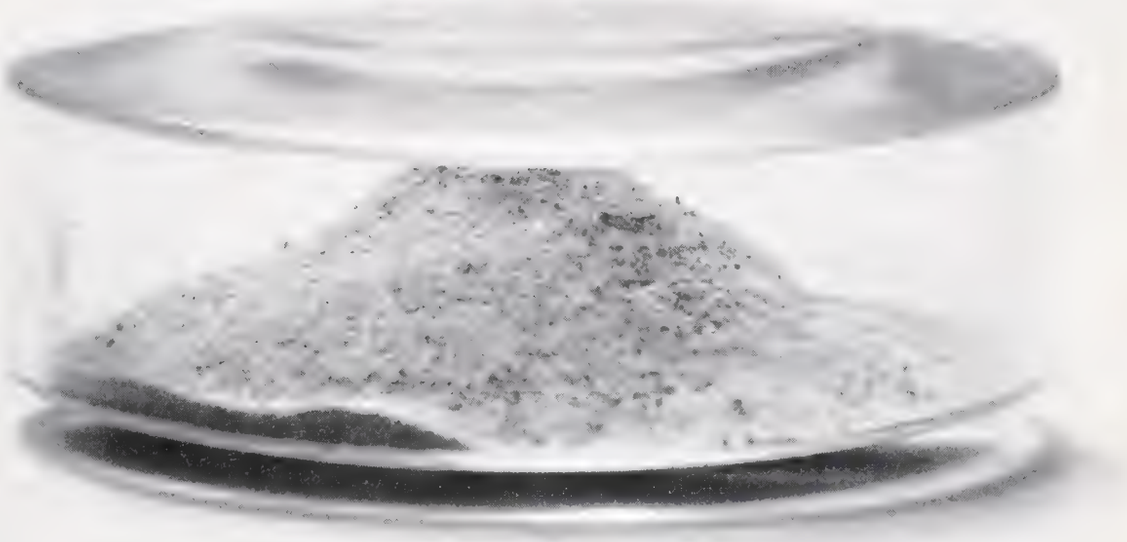

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EMERGENCY DEPARTMENT PHYSICIAN NEEDED for expanding 360-bed hospital in Southeast Texas. Guaranteed minimum annual compensation of $30,000. (42 hours per week). Postgraduate programs available in nearby Houston. Excellent area for hunting, fishing in moderate year-round climate. Contact Vice President, St. Elizabeth Hospital, P.O. Box 5405, Beaumont, Texas.

FAMILY PHYSICIAN: This is an opportunity you should look into. Three family practice physicians need fourth man. No capital outlay, equal privileges, no buy-in, guarantee until established, set your own pace. Clinic, 40-bed hospital, 44-bed extended care, accredited by JCAH. Contact Ray W. Freeman, M.D., Chief of Staff, or Gordon Russell, Administrator, Hi-Plains Hospital-Clinic, 203 West 4th, Hale Center, Texas 79041. Call 806, 839-2471.

WANTED—INTERNIST OR GENERAL PHYSICIAN interested in career in occupational health. Position now available in refinery medical department of major oil company in Texas. Excellent compensation and benefit program with opportunity for attractive advancement. Send resume with all particulars to Dr. H. B. Snyder, P.O. Box 2180, Houston, Texas 77001.

PRIVATE INDEPENDENT SOLO, ASSOCIATE AND GROUP PRACTICES in Houston, Dallas, Baytown, Sugarland, Conroe and Hillsboro. Not an employment agency. No cost or obligation to physician. High monthly income guaranteed. General practice, internal medicine, orthopedic surgery, OB/GYN and anesthesiology. Write with C.V. and preferences to Sanford Smith, Director of Physician Planning, Hospital Management Corporation, P.O. Box 9836, 12421 East Freeway, Houston, Texas 77015. 713, 453-6324.

FAMILY PHYSICIAN—Locum tenens needed in small East Texas town for period of October 1 through November 15. Would consider permanent associate. Please reply to Ad-468, *Texas Medicine*, 1801 North Lamar Blvd., Austin, Texas 78701.

THREE PHYSICIANS NEEDED. FAMILY PRACTICE PHYSICIAN, INTERNIST AND SURGEON needed to join a full time, five man clinic association group with part time radiologist and clinical pathologist in Clifton, Texas. Located in the heart of Texas, 35 miles NW of Waco, 15 miles from Lake Whitney. Good fishing, excellent hunting, new, recently completed, modern golf course. Excellent schools, churches and growing progressive small town. Closely associated with new 65-bed hospital facility, which is fully accredited by the Joint Commission. Suggest salary at first with partnership in future. Financial terms open. Please contact V. D. Goodall, M.D., Clifton Medical and Surgical Clinic Association, Clifton, Texas 76634. Telephone 675-8621 or 675-3113.

SIXTY-PHYSICIAN GROUP IN HOUSTON, TEXAS, Gulf Coast area, needs board eligible or certified pediatrician for new branch office in excellent suburban area. Eligible for partnership after two years. Excellent fringe benefits and retirement program. Teaching opportunities in nearby medical school and hospital staff privileges available. Call or write J. A. Bakken, Administrator, Kelsey-Seybold Clinic, 6624 Fannin Street, Houston, Texas 77025.

OPPORTUNITIES AWAIT PHYSICIANS in Central Texas' fastest growing city. Present potential area clientele 25,000. Ideal moderate climate, pollution-free air, excellent schools and churches, various recreational facilities in progressive city building for family living. Call collect L. Ledger, 817-547-3325 or Drawer C, Copperas Cove, Texas.

GENERAL PRACTITIONER OR INTERNIST WANTED (Texas license required) for Student Health Physician. Annual salary with fringe benefits and pleasant association with three other physicians to care for students. Write Dr. Robert A. Lloyd, Director of Student Health Center, North Texas State University, Denton, Texas 76203 or call 788-2331. We are an equal opportunity employer.

PSYCHIATRIST—Executive Director Community Mental Health-Mental Retardation Center. Administrative experience and Texas state license required. Spanish language desired. Salary range $30,000-$36,000 depending on qualifications and experience. Contact: Personnel Committee, El Paso Center for Mental Health and Mental Retardation Services, 4821 Alameda, El Paso, Texas 79905.

PROGRESSIVE 270 bed chest disease hospital in Texas seeks physician-internist with pulmonary or cardiology interest for expanded programs in patient care. Institution also engaged in education and research activities. Site visit by applicant is encouraged. Salary negotiable. Contact Superintendent or Clinical Director, East Texas Chest Hospital, Box 2003, Tyler, Texas 75701, 214-877-3451. An equal opportunity employer.

GENERAL PRACTICE STAFF PHYSICIAN NEEDED for progressive 1,800 resident state school for the mentally retarded; possession of legal requirements for practice of medicine in Texas required; competitive salary; excellent fringe benefits. Write or call Personnel Officer, Austin State School, Box 1269, Austin, Texas 78767, telephone 512-454-4731. An equal employment opportunity employer.

EXCELLENT OPPORTUNITY FOR YOUNG MD—GP or FP to replace physician who plans to retire shortly in Central Texas small town. New 38 bed hospital. Basic surgery, GYN and OB absolutely necessary. To associate with physician with quite a few years practice. Please reply to Ad-472, *Texas Medicine*, 1801 North Lamar Blvd., Austin, Texas 78701.

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GP WANTED TO ASSOCIATE with well established GP in town of 25,000; 75 miles north of Dallas. Good schools and churches, close to Lake Texoma. Privileges in all three hospitals according to qualifications. Salary open. Write or call W. S. Fry, M.D., 2301 South Austin Avenue, Denison, Texas 75020.

PSYCHIATRIC RESIDENCY IN APPROVED 3-YEAR PROGRAM. Effective connections with universities, medical schools, private clinics, and community centers. Outstanding faculty and programs. Stipends with Texas license are $13,000, $14,000 and $15,000 per year. In addition, now offering residency in child psychiatry. For full information write to: Anthony P. Rousos, M.D., Director of Training and Research, Austin State Hospital, 4110 Guadalupe Street, Austin, Texas 78751.

FAMILY PRACTITIONER—Get away from big city problems. Join 27 bed JCAH specialty hospital-clinic. Close association with staff of 10 specialists. Membership also available on active staff 150 bed general hospital. Plainview is the center of a well populated and prosperous irrigated farm area in West Texas. A family oriented city of 20,000 drawing from 150,000 with 25 MDs, fine schools, no traffic problems and five minutes from home to office. Excellent income and hours can be guaranteed. All of this plus only 40 minutes from new university medical school. Contact Dr. E. O. Nichols, Jr., 715 Houston Street, Plainview, Texas 79072.

FAMILY PRACTITIONERS NEEDED in Central Texas community; modern 60 bed hospital across from available doctors' offices; excellent place to raise family and practice medicine; excellent outdoor recreational area; healthy stable economy; four physicians in community welcome other physicians. Please reply to Ad-474, *Texas Medicine*, 1801 North Lamar Blvd., Austin, Texas 78701.

PHYSICIANS—715 bed hospital with active medical, surgical, psychiatric services, is in need of general internist, gastroenterologist, hematologist, urologist, and orthopedist, all preferably with certification. Excellent consultation, library and continuing medical education. Close association with Scott and White Hospital with sharing of house staff. Possible site for medical school. Salary competitive, ample vacation and sick leave, and fringe benefits. Equal employment opportunity agency. Apply Chief of Staff, VA Center, Temple, Texas 76501.

EMERGENCY ROOM PHYSICIAN. Full or part time in the beautiful, modern Hermann Hospital Emergency Room, Houston, Texas. Excellent resident/intern back up. Salary/benefits. Contact: E. R. Practice of Houston, 1203 Ross Sterling Avenue, Suite 120 Emergency Center, Houston, Texas 77025.

STAFF PHYSICIAN NEEDED FOR STATE HOSPITAL. Progressive 1,000 resident state institution. Eligibility for Texas license required. 40 hour work week, paid vacation, sick leave, holidays, good retirement plan, free group insurance. Kerrville is known as a retirement center. Prefer mature physician over age 50. Please contact Luther W. Ross, M.D., Superintendent, Kerrville State Hospital, P.O. Box 1468, Kerrville, Texas 78028, or phone 512-896-2211.

WANTED: GP for suburb of Dallas. No OB. 40 to 45 hours weekly. Salary until established. Call two to three nights weekly. Every two or three weekends. Contact George W. Apple, M.D., Box 158, Plano, Texas 75074.

IMMEDIATE OPENING FOR ONE FULL-TIME MD to complete five-man ER team. 500-bed JCAH approved teaching hospital in Corpus Christi, a town of 225,000 in South Texas. Wanted — settled physician over 40 who has been in private practice, minimal surgical background. Guaranteed $35,000 with 5% annual increase. 40 hour work week. Fringe benefits include one month paid vacation and time for post graduate study. Will consider locum tenens. Contact Mrs. Betty Foster, Vice President for Staff Services, Memorial Medical Center, P.O. Box 5280, Corpus Christi, Texas 78405. Telephone 512-884-4511.

DERMATOLOGIST, board certified or eligible for 60-man multispecialty group in Gulf Coast area. Academic and research opportunities in adjacent Texas Medical Center. Excellent initial salary and benefits with early partnership. Outstanding schools, cultural center and family recreational facilities. Write or call J. A. Bakken, Administrator, Kelsey-Seybold Clinic, 6624 Fannin, Houston 77025. Phone 713-526-2671.

Situations Wanted

OBG 39 years old board certified; fellow of the ACOG, would like to relocate in the Dallas-Fort Worth or San Antonio areas; other areas will be considered. Preference solo or partnership. Please reply to Ad-465, *Texas Medicine*, 1801 North Lamar Blvd., Austin, Texas 78701.

ONCOLOGIST, INTERNIST, board eligible. Will complete two year fellowship in oncology in June 1974. Desire practice in Texas in a group or clinic. Please contact Ad-470, *Texas Medicine*, 1801 North Lamar Blvd., Austin, Texas 78701.

CERTIFIED OB-GYN SEEKS ASSOCIATION with busy group, clinic, or individual. Native Texan, 51 years old, willing and able to carry full responsibility of practice. Will not do general practice, ER coverage, or elective abortions. Available now. Reply to Ad-471, *Texas Medicine*, 1801 North Lamar Blvd., Austin, Texas 78701.

SITUATIONS WANTED: COUPLE—he, third year fellow in infectious diseases; she, board certified internist and endocrinologist; desires practice in Texas, preferably West Texas, group or institutional, in community of 100,000 population upward. Please contact Ad-473, *Texas Medicine*, 1801 North Lamar Blvd., Austin, Texas 78701.

SEEKING NUCLEAR MEDICINE POSITION in Texas. Board certified. Texas license. Internal medicine background. Please reply to Ad-476, *Texas Medicine*, 1801 North Lamar Blvd., Austin, Texas 78701.

HIGH VOLUME MEDICAL PRACTICES WANTED by physicians—general practices and specialties. Nationwide practice brokers. Practice appraisals available. Professional Practice Sales, 1215 Walker Avenue, Suite 1001, Houston 77002, (712) 222-9112.

For Sale or For Rent

SOUTHEAST MEDICAL CENTER has customized suites available for immediate occupancy, 100 feet from Southeast Baptist Hospital. Ideal location in established quadrant of San Antonio where no medical specialists are offered. Only 17 minutes by freeway from downtown. Contact Manager, 4242 East Southcross, San Antonio 78222. Phone 222-2103.

OFFICE SPACE FOR RENT—available furnished or unfurnished. Seeking family physician to be located in same building with two other family physicians. Please reply to Dr. Williams and Dr. Baggett, 7 Medical Arts Square, Austin, Texas 78705.

FOR SALE—Bungalow office building on McRae Blvd., East El Paso. Located adjacent to shopping center in growing area. Occupied last several years by two dentists. Property in excellent condition. New hospital under construction nearby. Ideal for GP. Write for pictures and detailed information. Dr. C. W. Shahan, 3117 McRae Blvd., El Paso, Texas 79925. AC915-598-4941.

WANTED: GENERAL OR FAMILY PRACTITIONER to help in overage and share in coverage of patients in prominent Nottingham Forest Professional Center on Memorial Drive in Houston, Texas. Over 45,000 people in immediate area, expected to double in next ten years, average income of $25,000. X-ray available and pathologist staffed lab. The townhouse-styled center designed to accommodate physician's specific needs and tastes. Contact Loren Bernhardt, collect, 713-524-9131. Vallone & Associates, 2411 Brazos, Houston, Texas 77006.

FOR LEASING, modern fully equipped physician's office for general practice or specialty practice: 4 examing rooms, x-ray, lab. Stable clientele; will introduce. Good location in 28,000 population Texas-Mexican border town. Office available for leasing on or about 1 July 1974 when present MD to start post-graduate training. Please reply to Ad-475, *Texas Medicine*, 1801 North Lamar Blvd., Austin, Texas 78701.

AVAILABLE: Medical office in rapidly growing Southwest Medical Center at San Antonio, Texas. 1,042 square feet, consisting of a large reception room, consultation room, three examining rooms, laboratory room and a private restroom. There is plenty of free parking for doctor and patients. Only a couple of blocks away from Southwest Methodist Hospital and medical school; at reasonable cost. Excellent for family physician, GP, internist, OB/GYN. For information call or write: Mrs. Shirlene Stokes, 7342 Oak Manor Drive, Suite 131-B, San Antonio, Texas 78229; 512-349-1346.

OB-GYN PRACTICE FOR SALE—Located between Houston and Galveston this outstanding practice offers an immediate high income, netting 70%. Established six year practice does 50% GYN surgery, 25% OB, balance mixed. Contact Professional Practice Sales, 1215 Walker Avenue, Suite 1001, Houston 77002, (713) 222-9112.

Miscellaneous

PHYSICIANS' SAFARI: Escorted, exciting, all comforts. Sights, tribes, game, everything! 28 leisurely days through East and West Africa. Memories forever. VOYAGE, Suite 410, 6807 Winter Lane, Annandale, Virginia 22003.

FLUTE WANTED. Would like to buy a Haynes or Powell Flute. Age and condition no problem. Also looking for collections of flute music. Please reply to H. Kornblit, M.D., 902 Frostwood, Memorial City Professional Building, Houston, Texas 77024.

FIGHTING CANCER WITH FILMS...

...is not news. What's news is that our film program for professional medical audiences is the most ambitious ever launched against a single disease.

Approximately 30 films are now available (free on loan). The subjects include: chemotherapy, radiation therapy, cancer in children, nursing care of the cancer patient, rehabilitation, cancer sites—skin, stomach, mouth, colon and rectum, prostate, thyroid, breast, lung, uterus.

As pioneers in the usage of medical films, we know their value as teaching tools. They are a vital part of our professional educational programs. We hope you will contact your local ACS Unit about them.

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ADVERTISING & BUSINESS OFFICES: Texas Medical Association, 1801 North Lamar Blvd., Austin 78701; Telephone 512-477-6704.

PRINTING OFFICES: Texas Medicine, c/o Stafford-Lowdon Company, 1114 West Daggett, Fort Worth 76104.

Editorials

INFECTIOUS DISEASE RATES PLUMMET

Two years ago the Texas Medical Association aggressively supported legislation requiring compulsory immunization of Texas school children for certain communicable diseases. The Legislature passed such a law, and since 1970, Texas' cases of diphtheria, rubeola, and rubella have declined by more than 80%.

Also, the immunization levels for the state as a whole among students in Texas public schools average approximately 90% for each vaccine (diphtheria/tetanus, poliomyelitis, measles, and rubella).

Current statistics prove that the 1971 efforts of TMA, plus the diligent work of individual physicians, the Texas State Department of Public Health, local health departments, the Texas Education Agency, and cooperating parents and patients, have indeed accomplished dramatic decreases in specific communicable diseases.

Physicians can take pride in the following facts:

Poliomyelitis: Through July 20, no cases have been confirmed in Texas in 1973.

Diphtheria: Nine cases have been reported in 1973 (as of July 20), which is less than half the number recorded in Texas at that time last year.

Pertussis: As of July 20, 1973, there were 81 reported cases, less than those reported for the same period in 1972. (1972 had the fewest cases recorded annually in Texas since pertussis officially became a reportable disease).

Tetanus: Two cases have been confirmed in 1973, and this is less than half the number recorded during the same period in 1972.

Rubeola: Texas is no longer among the "top ten" measles states. The 417 cases reported through July 20, 1973, are less than one-third the number reported for the same period in 1972.

Rubella: Texas had 1,014 cases reported through July 20, 1973, less than during the comparable period in 1972 and less than 14% of those reported during the same period in 1970.

All things considered, Medicine's record in this area of public health is excellent. Yet, there still is work to be done.

Dr. Charles B. Dryden, TMA president, has stated, "No Texas child should have to suffer from the effects of these preventable diseases. Facilities and medical knowledge are available today to eliminate the threat of anyone getting poliomyelitis, diphtheria, pertussis, tetanus, rubeola, or rubella."

It should be emphasized, however, that parents have a responsibility to see that their children are properly immunized.

NAME OF THE GAME: INFORMATION

"Nobody gets polio, or measles, or diphtheria or whooping cough anymore! Right? Wrong! These old problems are still with us! See your doctor or local health department for immunization and booster facts now! A public service message of the Texas Association of Broadcasters and the Texas Medical Association."

You may be hearing that message or one similar to it on your radio, and a 30-second spot announcement about immunizations also may appear on your television screen from time to time.

These are part of a series of radio and television public service announcements being produced for distribution to stations throughout Texas. Production is under the direction of the Texas Medical Association's Council on Public Service and Communication in cooperation with the Texas Association of Broadcasters.

The first of this series is being distributed to 231 radio and 46 television stations. It consists of two 20-second radio spots and one 30-second television spot on the subject of immunization.

The gist of the message is, "See your doctor or local health department for information about immunization and boosters."

Future subjects will include venereal disease, doctor-patient communications, and proper health practices.

The time used to broadcast these announcements is donated by the stations, and their cooperation in such public service ventures is completely voluntary. The Council hopes physicians will express appreciation to local stations using these announcements.

The Texas Association of Broadcasters recognizes that many nonprofit organizations have information or projects that are of public interest, but do not have the time and/or technical facilities to utilize the public service time for which they qualify. Thus, TAB started a project called the Non-Commercial Sustaining Announcement Program. The TAB prepares the spot announcements in conjunction with officials of the participating organization, and copy is approved both by the organization and the TAB executive committee. TAB handles the production details and distributes material to member stations, and the participating organization is asked to make a contribution toward the costs of the program. TMA's contribution will cover the costs of production and distribution.

The Council on Public Service and Communication believes this program will not only contribute to a better informed public, but also will present the Texas Medical Association in a positive light regarding its involvement and concern in the health care of Texas citizens.

GOVERNMENT INVOLVEMENT IN HEALTH CARE DELIVERY

Currently, the federal government is involved in health care delivery systems. I think it is a proper area of involvement, but the real question is, "How much should government do, and how should it be done?"

It used to be that the only "system" of health care delivery we were familiar with was fairly informal and unstructured. It went something like this: Because I was a physician, patients came to me. If they had to be hospitalized, I had them admitted to a hospital where I had staff privileges; if they needed physician services which I didn't feel competent to provide, I referred them to a specialist whom I believed to be qualified—and my office staff and I would help the patient get whatever other services or supplies he might need.

It worked—and still works—pretty well, however, it isn't "structured" and it can't be graphed or flow-charted too well. As a system, some of our current theorists feel it isn't systematic enough. This is especially true in government.

I have found that bureaucrats—and I do not mean the term in any derogatory sense—like systems. They like tables of organization, and structured programs, and "phases." This is perfectly reasonable within government, and more reasonable the larger the government; everyone knows his role in the system, what he can and can't do, and if he changes jobs he can adjust quickly because the rules are all laid out.

But I don't think everything can be systematized in just this fashion. John Ruskin, writing about writing in 1879, said, "Much time is wasted by human beings in general on establishment of systems; and it often takes more labor to master the intricacies of an artificial connection, than to remember the separate facts which are so carefully connected."

Nonetheless, the federal government is into delivery systems, with the idea of "organizing" the nation's health resources in such a fashion that everyone will be guaranteed an access point into the system and guaranteed the necessary connections with the next steps in the health care process needed to treat him.

This would be an ideal state of affairs and one which, as a goal, no physician would quarrel with. Many of us feel that our "nonsystem" has proved just this for the majority of Americans for years, but the statistics, again, show that some Americans do not get care and the conclusion which has been drawn is that the "system" is at fault.

(I think, however, that some people don't get care simply because they don't want it and won't come in unless they are dragged or pushed. Of course, polite dragging or pushing is being pro-

posed as part of some of the systems.)

At any rate, the planners have been drawing up blueprints of new "delivery systems" to assure access to all. I am all in favor of this; the medical profession will accept and support any approach which results in better care for more people. However, there seems to be a tendency in government to accept a well-drawn blueprint as equivalent to a working model, and a working model as immediately applicable nationwide.

Perhaps it is because we physicians are somewhat suspicious of miracle cures; perhaps it is because our daily contact with patients has taught us the infinite variety of the human species—but we hesitate to accept any new proposal for major reform of health care without adequate testing.

Government, on the other hand, sometimes seems to follow Poo-bah's rule in "The Mikado." When asked why he had not carried out an execution ordered by the Mikado, Poo-bah explained, "When Your Majesty says 'do a thing,' then that thing is as good as done, and if it is as good as done, why do it?" Government takes a liking to a particular approach, develops arguments in support of it, and convinces itself that no further testing is necessary.

I can cite two specific examples where we are at odds with government on health care delivery systems. Some years back, Congress passed a loan guarantee program for construction of group practice facilities; the AMA opposed it, not because we oppose group practice, but because the government had no justification for supporting one pattern of medical practice over all others. Besides, most groups would not really need federal guarantees to obtain bank loans.

The other example is the health maintenance organization (HMO), which has surfaced during the past three years or so. Basically, the HMO idea is to establish an organization which, on the basis of a fixed monthly payment per member, will provide all necessary health care. There are several variations of the plan.

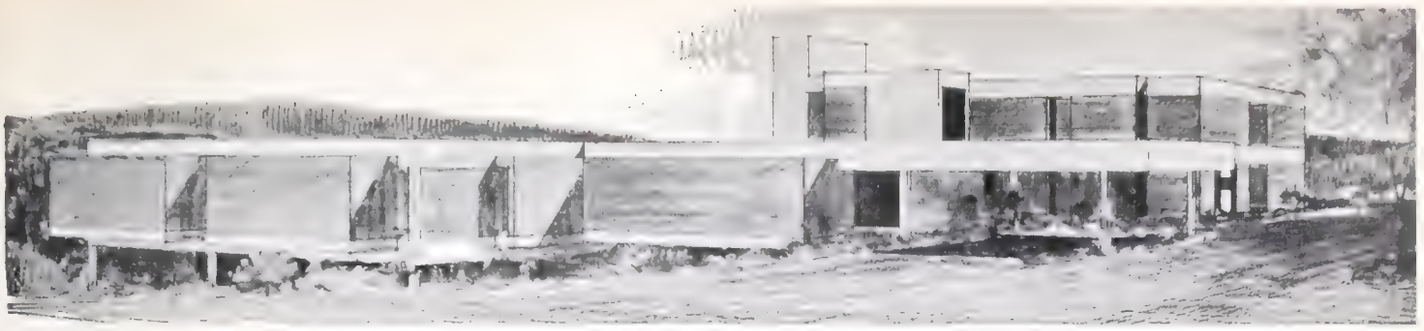
The medical profession, as a whole, speaking through the AMA, has never opposed HMOs. We have said that the prototype organizations claimed by HMO supporters to be HMOs (such as Kaiser, HIP, GHA) may be doing a very good job for their own members, but that there is no evidence that what they are doing for some patients—and sometimes a selected group of patients—in limited areas can be done throughout the country. Indeed, there is not even evidence that the HMO approach is acceptable to the majority of patients, let alone feasible.

We have, therefore, opposed federal efforts to establish HMOs immediately as the dominant pattern of practice in the United States, and have urged study and evaluation of the HMO on an experimental-demonstration project basis in various locations, and with various types of clientele, before considering national support.

I do think there is a real role for the federal government in promoting experiments in health care delivery, since some of these experiments may have a potential for improving the quality of care, or even for broadening "access." I also think that government oversteps its role when it assumes the part of Big Brother—in which a group in Washington decides, on the basis of a blueprint or prospectus, that "This is the way that health care should be delivered, and we will put the fiscal and regulatory power of the government behind changing the system to fit this blueprint—and whether the people who will be delivering the care and the people who will be receiving the care really like it doesn't matter."

There is no one pattern of organization that can properly serve all patients and use the talents of all physicians. Health care delivery must remain flexible enough to serve many types of needs in ways that are acceptable to the people who need it.

James H. Sammons, MD, Baytown,
Vice-Chairman, Board of Trustees,
American Medical Association.



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While Valium can be a most helpful adjunct to your counseling, it should be prescribed only as long as excessive psychic tension persists and should be discontinued when you decide it has accomplished its therapeutic task. In general, when dosage guidelines are followed, Valium is well tolerated (see Dosage). For convenience it is available in 2-mg, 5-mg and 10-mg tablets.

Drowsiness, fatigue and ataxia have been the most commonly reported side effects.

Until response is determined, patients receiving Valium should be cautioned against engaging in hazardous occupations requiring complete mental alertness, such as driving or operating machinery.

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Nutley, N.J. 07110

Before prescribing, please consult complete product information, a summary of which follows:

Indications: Tension and anxiety states; somatic complaints which are concomitants of emotional factors; psychoneurotic states manifested by tension, anxiety, apprehension, fatigue, depressive symptoms or agitation; symptomatic relief of acute agitation, tremor, delirium tremens and hallucinosis due to acute alcohol withdrawal; adjunctively in skeletal muscle spasm due to reflex spasm to local pathology, spasticity caused by upper motor neuron disorders, athetosis, stiff-man syndrome, convulsive disorders (not for sole therapy).

Contraindicated: Known hypersensitivity to the drug. Children under 6 months of age. Acute narrow angle glaucoma; may be used in patients with open angle glaucoma who are receiving appropriate therapy.

Warnings: Not of value in psychotic patients. Caution against hazardous occupations requiring complete mental alertness. When used adjunctively in convulsive disorders, possibility of increase in frequency and/or severity of grand mal seizures may require increased dosage of standard anticonvulsant medication; abrupt withdrawal may be associated with temporary increase in frequency and/or severity of seizures. Advise against simultaneous ingestion of alcohol and other CNS depressants. Withdrawal symptoms (similar to those with barbiturates and alcohol) have occurred following abrupt discontinuance (convulsions, tremor, abdominal and muscle cramps, vomiting and sweating). Keep addiction-prone individuals under careful surveillance because of their predisposition to habituation and dependence. In pregnancy, lactation or women of childbearing age, weigh potential benefit against possible hazard.

Precautions: If combined with other psychotropics or anticonvulsants, consider carefully pharmacology of agents employed; drugs such as phenothiazines, narcotics, barbiturates, MAO inhibitors and other antidepressants may potentiate its action. Usual precautions indicated in patients severely depressed, or with latent depression, or with suicidal tendencies. Observe usual precautions in impaired renal or hepatic function. Limit dosage to smallest effective amount in elderly and debilitated to preclude ataxia or oversedation.

Side Effects: Drowsiness, confusion, diplopia, hypotension, changes in libido, nausea, fatigue, depression, dysarthria, jaundice, skin rash, ataxia, constipation, headache, incontinence, changes in salivation, slurred speech, tremor, vertigo, urinary retention, blurred vision. Paradoxical reactions such as acute hyperexcited states, anxiety, hallucinations, increased muscle spasticity, insomnia, rage, sleep disturbances, stimulation have been reported; should these occur, discontinue drug. Isolated reports of neutropenia, jaundice; periodic blood counts and liver function tests advisable during long-term therapy.

Dosage: Individualize for maximum beneficial effect. *Adults:* Tension, anxiety and psychoneurotic states, 2 to 10 mg b.i.d. to q.i.d.; alcoholism, 10 mg t.i.d. or q.i.d. in first 24 hours, then 5 mg t.i.d. or q.i.d. as needed; adjunctively in skeletal muscle spasm, 2 to 10 mg t.i.d. or q.i.d.; adjunctively in convulsive disorders, 2 to 10 mg b.i.d. to q.i.d. *Geriatric or debilitated patients:* 2 to 2½ mg, 1 or 2 times daily initially, increasing as needed and tolerated. (See Precautions.) *Children:* 1 to 2½ mg t.i.d. or q.i.d. initially, increasing as needed and tolerated (not for use under 6 months).

Supplied: Valium® (diazepam) Tablets, 2 mg, 5 mg and 10 mg; bottles of 100 and 500. All strengths also available in Tel-E-Dose® packages of 1000.

Valium®
(diazepam)

To help you manage excessive psychic tension

Foreign tours: TMA's good-time service

Sponsorship of foreign tours is one of the most enjoyable services provided by the Texas Medical Association for its members. These tours have been arranged by Intrav, Marriott, and AITS (American International Travel Service). Each of the travel organizations must meet strict specifications before TMA will sponsor its trips.

The recent Rhine Escape by Marriott, under the direction of Mike Lupfer and Barney Kelly, was most outstanding. The entire tour was well planned with a minimum of regimentation. The hotel accommodations were superb and the service on the river boat was especially fine. Breakfast, midmorning snack, lunch, tea, and dinner made it difficult to keep the weight under control. Especially good were the fine local wines with the seven-course dinners, culminating in complete cheese boards and desserts.

Most of the sightseeing tours and the guides were well selected, and the guides tried to make their presentations as interesting as possible. This added enjoyment in visiting the castles, small towns, the Delft factory, and the countryside.

The attendance at the shipboard medical seminar on various cardiac problems, presented by Dr. W. L. Jack Edwards of Dallas, showed that wherever physicians gather their thinking never leaves the professional field. So many physicians wanted to visit the Ludolf-Krehl Klinik in Heidelberg that the visit lost much of its effectiveness. Most of us thought this part of the medical program could have been better arranged.

Naturally not everything could be seen or enjoyed, but as much as possible was worked into the itinerary and everyone found something he would like to explore later in depth. Mary Ruth and I feel we must return to both Zurich and Amsterdam to see more of the beautiful cities and world-famous museums. The city of Strasbourg was, with the visit to the Cathedrale de Strasbourg, one of the highlights of the trip. This famous cathedral has never been finished and contains some of the most beautiful stained glass windows in the world. The Pillar of the Last Judgement with its rows of statues is said to excel anything to be seen in Europe.

All of this, and the association with the approximately 175 tour group members—physicians and their families—made this a memorable trip. We hope that each member of the TMA will have the pleasure of one of these tours.

Charles B. Dryden M.D.

Charles B. Dryden, MD, President
Texas Medical Association

Oct 73

Texas Medicine

Multiple drug user

Physician's role in learning disabilities

Court rules on unsuccessful sterilization

Health fairs and museums

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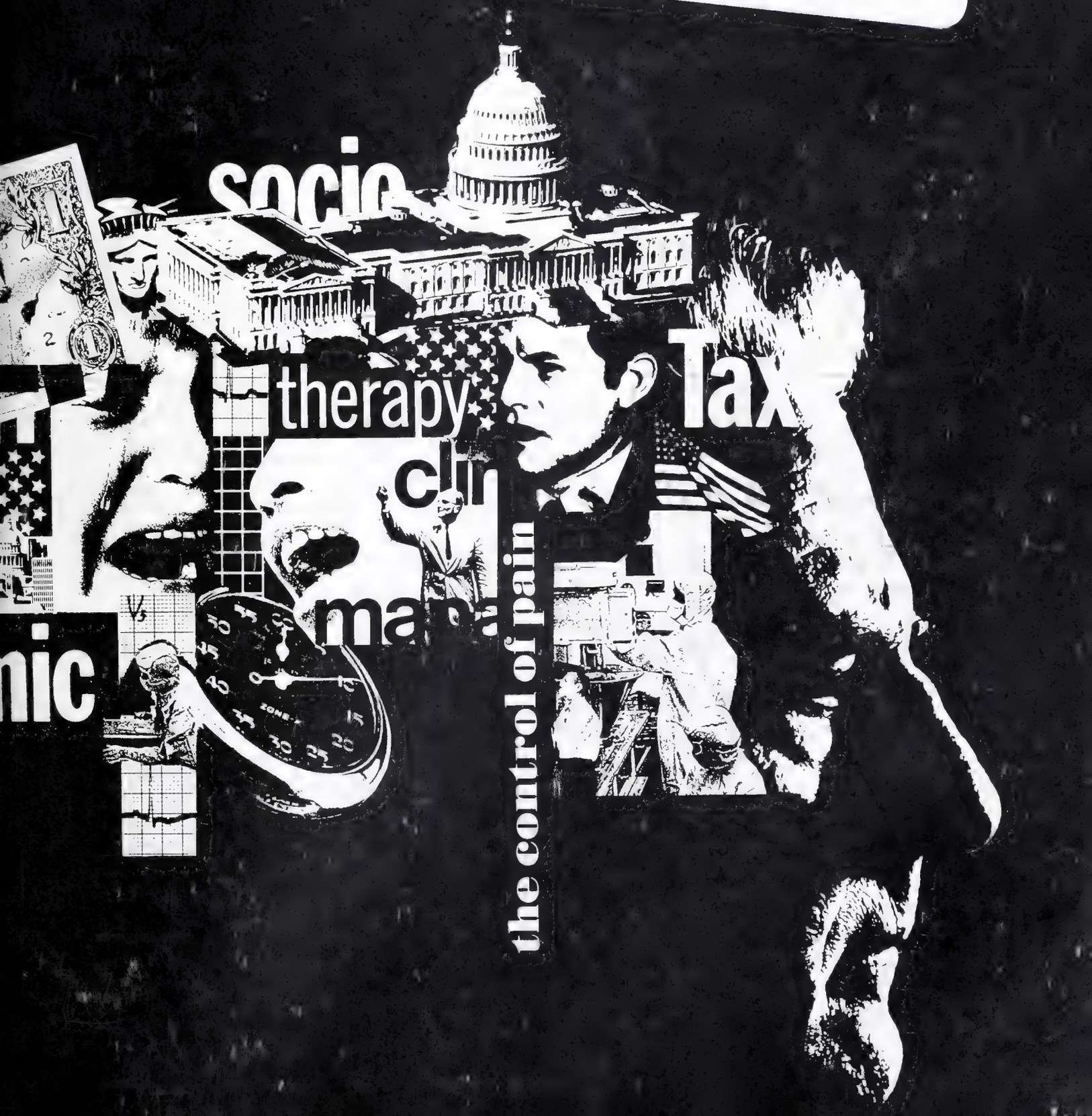

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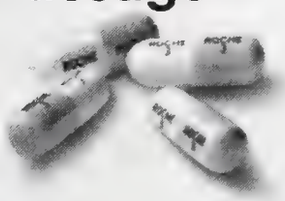

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Before prescribing, please consult complete product information, a summary of which follows:

Indications: Relief of anxiety and tension occurring alone or accompanying various disease states.

Contraindications: Patients with known hypersensitivity to the drug.

Warnings: Caution patients about possible combined effects with alcohol and other CNS depressants. As with all CNS-acting drugs, caution patients against hazardous occupations requiring complete mental alertness (*e.g.*, operating machinery, driving). Though physical and psychological dependence have rarely been reported on recommended doses, use caution in administering to addiction-prone individuals or those who might increase dosage; withdrawal symptoms (including convulsions), following discontinuation of the drug and similar to those seen with barbiturates, have been reported. Use of any drug in pregnancy, lactation, or in women of childbearing age requires that its potential benefits be weighed against its possible hazards.

Precautions: In the elderly and debilitated, and in children over six, limit to smallest effective dosage (initially 10 mg or less per day) to preclude ataxia or oversedation, increasing gradually as needed and tolerated. Not recommended in children under six. Though generally not recommended, if combination therapy with other psychotropics seems indicated, carefully consider individual pharmacologic effects, particularly in use of potentiating drugs such as MAO inhibitors and phenothiazines. Observe usual precautions in presence of impaired renal or hepatic function. Paradoxical reactions (*e.g.*, excitement, stimulation and acute rage) have been reported in psychiatric patients and hyperactive aggressive children. Employ usual precautions in treatment of anxiety states with evidence of impending depression; suicidal tendencies may be present and protective measures necessary. Variable effects on blood coagulation have been reported very rarely in patients receiving the drug and oral anticoagulants; causal relationship has not been established clinically.

Adverse Reactions: Drowsiness, ataxia and confusion may occur, especially in the elderly and debilitated. These are reversible in most instances by proper dosage adjustment, but are also occasionally observed at the lower dosage ranges. In a few instances syncope has been reported. Also encountered are isolated instances of skin eruptions, edema, minor menstrual irregularities, nausea and constipation, extrapyramidal symptoms, increased and decreased libido—all infrequent and generally controlled with dosage reduction; changes in EEG patterns (low-voltage fast activity) may appear during and after treatment; blood dyscrasias (including agranulocytosis), jaundice and hepatic dysfunction have been reported occasionally, making periodic blood counts and liver function tests advisable during protracted therapy.

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not if the vasodilator is

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The cerebral or peripheral vascular disease patient often has coexisting disease[1] which calls for another drug along with his vasodilator. It may be a hypoglycemic, miotic, antihypertensive, diuretic, anticoagulant, corticosteroid, or coronary vasodilator.

Vasodilan is not incompatible with any of these drugs—no treatment conflict has been reported. And, unlike other vasodilators, Vasodilan has not been reported to affect carbohydrate metabolism, liver function, or intraocular pressure—or to complicate treatment of diabetes, hypertension, peptic ulcer, glaucoma, or liver disease.

In fact, there are no known contraindications to the use of Vasodilan in recommended oral doses, other than that it should not be given in the presence of frank arterial bleeding or immediately postpartum.

1. Gertler, M. M., et al.: Geriatrics *25*:134-148 (May) 1970.

Indications: Based on a review of this drug by the National Academy of Sciences-National Research Council and/or other information, the FDA has classified the indications as follows:

Possibly Effective:

1. For the relief of symptoms associated with cerebral vascular insufficiency.
2. In peripheral vascular disease of arteriosclerosis obliterans, thromboangiitis obliterans (Buerger's Disease) and Raynaud's disease.
3. Threatened abortion.

Final classification of the less-than-effective indications requires further investigation.

Composition: Vasodilan tablets, isoxsuprine HCl, 10 mg. and 20 mg.

Dosage and Administration: 10 to 20 mg. three or four times daily.

Contraindications and Cautions: There are no known contraindications to oral use when administered in recommended doses. Should not be given immediately postpartum or in the presence of arterial bleeding.

Adverse Reactions: On rare occasions, oral administration of the drug has been associated in time with the occurrence of severe rash. When rash appears, the drug should be discontinued. Occasional overdosage effects such as transient palpitation or dizziness are usually controlled by reducing the dose.

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Texas Medicine
VOL 69 OCTOBER 1973

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Subscriptions: $3 per year for members; $6 for nonmembers; $8 for foreign; $5 for libraries, hospitals, and universities; $3 for medical students. Single copy: $1.

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ON THE COVER

No matter how many different types of problems come to the physician, each one requires a decision based on sound and extensive knowledge. A few of these problems are discussed in this issue: multiple drug use, learning disabilities, epilepsy, hip replacement, and more.

NEXT MONTH

Article topics will include immunology procedures relevant to allergy; allergy comes of age; human leptospirosis in Texas; patterns of congestive failure in chronic obstructive pulmonary disease; emphysematous cholecystitis; recent advances in the pathophysiology of cholesterol gallstone formation; problems in the delivery of primary health care; and initial responses to grief.
Also, a new column, "Capital Comments," will begin in November. Material, prepared by the office of the general counsel, will deal with state and federal legislation and regulatory agencies.

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NEWS

Medical issues, practice hints, personal planning highlight conference discussions

In his keynote address to the TMA Conference on Medical Service and Practice Management, Oct 6, Dr. James H. Sammons of Baytown, chairman pro tem of the Board of Trustees of the American Medical Association, recognized that there are problems and challenges facing the medical profession, but he urged Texas physicians to "put them in their proper perspective."

Touching on the problem areas of HMOs, PSROs and medical education, Dr. Sammons cited the AMA's part in influencing and successfully modifying proposed national legislation to produce compromises both liveable and workable to the medical profession.

Dr. Sammons pointed out the physician's obligation to patient education and public health education. He told the doctors that physicians in this country see an average of 2,300,000 people every day of the week, providing excellent opportunities for patient education.

Dr. Sammons issued a plea for unity among members of the medical professon which was reemphasized by the other physician-speakers at the conference.

Dr. Joseph T. Painter of Houston, chairman of the steering committee of the newly formed Texas Institute for Medical Assessment, reported to the conferees on the developments and the current climate regarding the implementation of a statewide PSRO. He stated there was unanimity among provider groups in Texas in support of the statewide unit.

Vaughn G. Alexander, AMA program director of computer systems

Dr. Howard O. Smith(left) was presented the Distinguished Service Award by Dr. Charles B. Dryden, TMA president.

One of several informative exhibits displayed at conference

in medicine, delivered a visual presentation describing current procedural terminology and its usefulness in accurate and time-saving record keeping.

The morning was highlighted by a panel discussion on utilization review and utilization. Participants included Dr. Frank J. Jirka, immediate past president of the Illinois State Medical Society; Dr. James L. Henry, president-elect of the Ohio State Medical Society; and Dr. Alan R. Nelson, president of the Utah Professional Review Organization. The three called for physicians to play a leadership role in the utilization review process, and to begin immediately. Dr. Nelson, in describing the Utah system in operation, stated that 85% of all cases reviewed went through the computer with no need of additional supporting information. He said in only 5% of the cases was an action taken against unnecessary care.

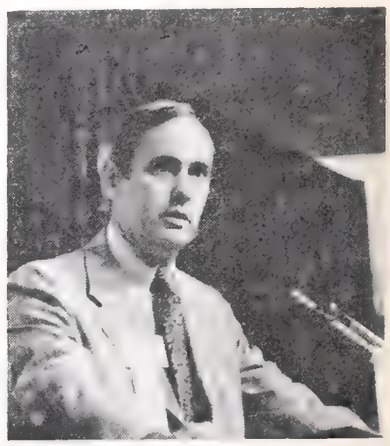
In addition to the panel, Dr. William Fred Lucas, newly appointed medical director of Blue Cross-Blue Shield of Indiana, presented a slide program explaining wage-price controls, utilization and physicians' fee profiles.

The afternoon sessions of the conference were devoted to management of both business and personal affairs for physicians. George S. Conomikes, president of Conomikes Associates, spoke on time management and presented many suggestions to help physicians have more control over their practices. He stated that the three important "Ps" in time management involved personnel, paper work, and patient flow.

Charles E. Gaines, CLU, an independent management consultant opened the discussion on financial planning with a presentation on the principles of estate planning. He said the essentials of sound estate planning included provisions for the family, liquidity, and flexibility.

Participating in an afternoon panel of financial planning were Ben G. Marroquin, an Austin consultant; Mark S. Tolle, CLU of Dallas; Eugene J. Tschoepe, CPA of Austin; Paul E. Martin, Houston attorney; and William R. Gall, banking trust officer. Each emphasized the importance of conscious effort in planning financial affairs and assistance by experts in the field. Physicians were urged to review their financial programs annually. A physician's checklist was given to each conference participant in order that he might determine any insufficiencies in his own personal financial program. A lengthy question and answer period indicated the physicians' interest in the topic.

Dr. James H. Sammons



Dr. Joseph T. Painter

Dr. Frank J. Jirka and Dr. Alan R. Nelson—part of panel on utilization review

Hospitality hour enjoyed by all

NEWS

Highlighting the conference was the presentation of the TMA Distinguished Service Award to Dr. Howard O. Smith of Marlin. Dr. Smith, in a half century of service to the medical profession in Texas, holds honors and achievements too numerous to list. Among his many contributions to the Texas Medical Association have been his outstanding leadership and his service during his tenure as president of the Association.

TMA also hosted its annual orientation program Oct 6 with several sessions meeting concurrently with the fall conference. Over 800 physicians attended the conference sessions and the board, committee and council meetings conducted throughout the weekend.

Exec Board adopts statements on prepaid care, abortion, renal disease, price controls

Statements on prepaid health care delivery systems, recommendations regarding guidelines for care of Medicare patients with chronic renal diseases, removal of mandatory price controls on physicians' fees, and abortion were adopted by the Texas Medical Association's Executive Board on Sunday, Oct 7.

Meeting in Austin, the board also heard an interim report on the status of negotiations regarding the development of a single statewide PSRO in Texas and acted upon several other matters of immediate concern to Texas physicians, including establishment of a special committee on blood banking to deal with current urgent problems in this area and support in principle of the collection of fee for services payments by medical school faculty for Medicare patients.

Prepaid Health Care Delivery Systems

Responding to the board's request at its August meeting, the Council on Medical Legislation drafted a proposed policy statement on prepaid health care delivery systems. The board approved the statement and will seek concurrence of the House of Delegates on Nov 3-4. Reiterating TMA's stand supporting diverse methods of health care delivery, the new policy statement supports multiple methods of delivery as offering the broadest freedom of choice and best opportunity for continual innovations and for improvements in the health status of Texas citizens. The statement endorses a prepaid health care delivery system (sometimes referred to as an HMO) that "has the capacity to protect the doctor-patient relationship through a marriage of medicine and management in the service of patients." It calls for TMA to go on record as supporting "among other forms a prepaid health care delivery system which follows the canons of medical ethics; the prohibition of the corporate practice of medicine; the absolute control of the practice of medicine to be in the hands of an individual, a group or nonprofit corporation authorized under the law with all members holding a license to practice medicine in Texas; compliance with all provisions of the Medical Practice Act; with appropriate regulatory controls to safeguard the patient, doctor and participating entities."

The statement declares that for TMA to favor prepaid group health care to the exclusion of all other systems of health care and to hail it as the solution to all medical problems is intellectually dishonest and that TMA does not intend to be a party to this stand.

TMA's legal counsel and the Council on Medical Legislation will draft proposed legislation for subsequent approval by the House of Delegates.

Patients with Chronic Renal Disease

Guidelines relating to the extension of Medicare benefits to cover patients with chronic renal disease, under PL

DISABILITY MAY HALT YOUR INCOME BUT YOUR OFFICE EXPENSES STILL GO ON

- RENT
- EMPLOYEES' SALARIES
- PROPERTY TAXES
- UTILITIES
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These Are Some Of The Major Costs You Must Still Pay When Disabled.

Write The Texas Medical Association For Information On The Broad Coverage Available Through The Association's Office Overhead Expense Disability Insurance Plan.

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Underwritten By

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NEWS

92-603, have been extensively reviewed by a special committee on renal diseases. The committee observed that several excellent principles for an effective health care delivery system had been advanced in the proposed guidelines under section 2991 of the law; however, the committee and the Executive Board concurred that there were several areas of concern in the proposed guidelines which would affect quality patient care and would adversely affect both patients and physicians.

The board supported principles which would contribute to quality medical care: the patient's right to select his physician, the physician's right to select the modality of treatment; and reimbursement for professional services rendered. The committee's recommendations and positive suggestions will be forwarded to the Commissioner of Social Security and to Region VI of the Department of Health, Education, and Welfare. An appeal also will be made to the State Department of Health to incorporate these recommendations into the new state program for chronic renal disease.

Three areas of specific concern to the committee regarding the proposed guidelines were cited. These areas involve transplants and benefit eligibility periods, physicians' reimbursement procedures, and costs for dialysis facilities. Points concerning these areas are enumerated in the Handbook for delegates which will be sent to each delegate before the November House of Delegates meeting.

Removal of Discriminatory Price Controls

Repeating TMA's concern that price controls on physician's fees under Phase IV are discriminatory and that physicians have demonstrated that they can keep their fees under control through voluntary compliance, the Executive Board resolved to support American Medical Association in its continued efforts to seek removal of these mandatory controls.

Abortion Policy of Texas Medical Association

After thorough review by the Board of Councilors of legal and ethical considerations relating to abortion in recent months, the Executive Board adopted a new policy which states that "Abortion is a medical procedure and should be performed only by a duly licensed physician and surgeon and in conformance with standards of good medical practice and the Medical Practice Act of Texas. Neither physician, hospital, nor hospital personnel shall be required to perform any act violative of good medical judgment or personally held moral principles." The Board also asked the Committee on Maternal Health to define more specifically the standards of good medical practice in regard to abortion. A committee study is under way. The House of Delegates likewise will review the policy statements on abortion at the Nov 3-4 meetings.

Support of Fee Service Collections By Medical School Faculty

Voicing concern expressed by the Council on Medical Education and Hospitals that proposed regulations under section 227 PL 92-603 would be discriminatory and would drastically affect reimbursements of fees to medical school faculty for Medicare and Medicaid patients, the Executive Board called upon the President of TMA to forward TMA's position immediately to elected representatives and to the Secretary of Health, Education, and Welfare. The council was concerned that physicians would not be reimbursed for professional services; and that two classes of patients, charity and paying, would be created in medical school teaching hospitals.

Baylor students view rural life

Baylor College of Medicine's Field Trip Program provides opportunities for medical students to personally view the setting of medical practice in rural communities and to establish an interchange with the practicing physicians in outlying areas of the state.

A pilot trip to Brenham, Caldwell, and Bryan this summer met with such overwhelming success that the field trip program has been established as a permanent project at the College under the leadership of Dr. Leonard Moise of Pasadena, chairman of the Baylor Medical Alumni Field Trip Committee. The Harris County Medical Society has also given its full support to the project.

A second trip during the first part of October included observation of facilities in the Pasadena and Baytown areas.

The Committee hopes to arrange one trip a month throughout the year to expose as many medical students as possible to the realities and rewards of private practice in the rural areas of Texas. Because of the costs involved, most of the trips will be limited to one day excursions with weekend jaunts planned approximately every four months.

Dr. Moise said the communities visited have the chance to interest students in either taking a preceptorship under a local physician while at Baylor or starting a private practice in the area later. Through participation of local civic groups in each area, the students observe the personal aspects of living in a small or medium-sized community as well as the type of medical care provided.

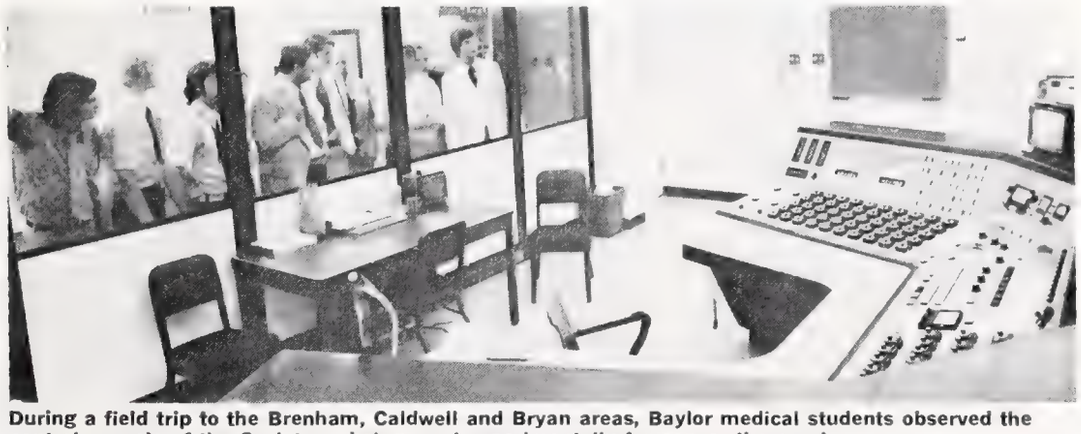
The first field trip participants were chosen from the Baylor Family Practice Student Association, but student interest and enthusiasm has led to an expansion of the program.

The program is financially supported by Baylor Medical Alumni, other practicing Texas physicians and communities interested in having students visit them.

Pre-school immunization begins this month

The AMA has joined the Center for Disease Control in its program to immunize pre-school children. Beginning this month, Immunization Action Month, the program aims to immunize a minimum of 90% of the estimated susceptible pre-school aged children against measles, rubella, polio, diphtheria, tetanus, and pertussis within two years.

According to the CDC, approximately 37% of the nearly 14 million pre-school children are unprotected. The program is designed to motivate parents to check the immunization status of their children through family physicians and public health clinics. To create physician interest in these parental inquiries, as well as to conduct an ongoing audit of the immunization record of every child he sees, the CDC said audit forms would be available to any physician needing them.



During a field trip to the Brenham, Caldwell and Bryan areas, Baylor medical students observed the control console of the Cyclotron, being used experimentally for cancer therapy by Texas A&M University.

Pinworm therapy is often a family affair

Contraindications: History of hypersensitivity to thiabendazole.
Warnings: If hypersensitivity reactions occur, drug should be discontinued immediately and not resumed. Rarely, erythema multiforme has been associated with thiabendazole therapy; in severe cases (Stevens-Johnson syndrome), fatalities have occurred. Because CNS side effects may occur quite frequently, activities requiring mental alertness should be avoided. Safe use in pregnancy or lactation has not been established.
Precautions: Ideally, supportive therapy is indicated for anemic, dehydrated, or malnourished patients prior to initiation of anthelmintic therapy. In presence of hepatic or renal dysfunction, patients should be carefully monitored.
Adverse Reactions: Most frequently encountered are anorexia, nausea, vomiting, and dizziness. Less frequently, diarrhea, epigastric distress, pruritus, weariness, drowsiness, giddiness, and headache have occurred. Rarely, tinnitus, hyperirritability, numbness, abnormal sensation in eyes, blurring of vision, xanthopsia; hypotension, collapse; enuresis; transient rise in cephalin flocculation and SGOT; perianal rash, cholestasis and parenchymal liver damage; hyperglycemia; transient leukopenia; malodor of the urine, crystalluria, hematuria; appearance of live Ascaris in the mouth and nose. Hypersensitivity reactions

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so easy to take everyone in the family can keep to the regimen you prescribe

include: fever, facial flush, chills, conjunctival injection, angioedema, anaphylaxis, skin rashes, erythema multiforme (including Stevens-Johnson syndrome), and lymphadenopathy.
Supplied: Chewable tablets, containing 500 mg thiabendazole, in boxes of 36, strip packaged, individually foil wrapped; Suspension, containing 500 mg thiabendazole per 5 ml, in bottles of 120 ml.

For more detailed information, consult your MSD representative or see full prescribing information. Merck Sharp & Dohme, Division of Merck & Co., Inc., West Point, Pa. 19486

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addendum

INDICATION | DOSAGE SCHEDULE

MINTEZOL® (Thiabendazole, MSD) has demonstrated effectiveness against a broad spectrum of nematode infections. Dosages are weight related. For your convenience, the information in the weight-dose chart below is included in the full prescribing information and in the 1973 edition of PDR.
The recommended maximum daily dose of MINTEZOL is 3 g (6 tablets).
MINTEZOL should be given after meals if possible. Dietary restriction, complementary medications, and cleansing enemas are not needed.
The usual dosage schedule for all conditions is two doses per day. The size of the dose is determined by the patient's weight.

Weight-dose chart:

WEIGHT (lb)	EACH DOSE (g)	TABLETS
25	0.25	½
50	0.5	1
75	0.75	1½
100	1.0	2
125	1.25	2½
150 & over	1.5	3

The regimen for each indication follows:

INDICATION	REGIMEN	COMMENTS
Pinworm disease	Two doses per day for 1 day. Repeat in 7 days. This regimen is designed to reduce the risk of reinfection.	If this is not practical, give 2 doses per day for 2 successive days.
Threadworm,* large roundworm,* hookworm,* and whipworm* disease	Two doses per day for 2 successive days.	A single dose of 20 mg/lb or 50 mg/kg may be employed as an alternative schedule, but a higher incidence of side effects should be expected.
Creeping eruption	Two doses per day for 2 successive days.	If active lesions are still present 2 days after completion of therapy, a second course is recommended.
Symptoms of trichinosis* during the invasive phase of the disease	Two doses per day for 2 to 4 successive days according to the response of the patient.	The optimal dosage for the treatment of trichinosis has not been established.

*Clinical experience with thiabendazole for treatment of each of these conditions in children weighing less than 30 lb has been limited.

NEWS

Texas offers training for physician's assistants

There are currently five programs in Texas offering training for "Physician's assistants."

In May 1971, the TMA House of Delegates approved the following definition: "The physician's assistant is a skilled person, qualified by academic training in an accredited program and by practical training to provide patient services under the supervision and direction of a licensed physician who is responsible for the performance of that assistant."

Developed to ease the strain of increasingly heavy physicians' workloads, the role of the physician's assistant varies with his individual capabilities and the specific needs of the employing physician, the practice setting, and the community.

The first class of physician's assistants from The University of Texas School of Allied Health Sciences of The University of Texas Medical Branch at Galveston graduated in late August of this year. Graduates of the two-year program receive the degree of bachelor of science in health care sciences and a certificate of proficiency in a specialized area of study. Classes beginning each June are limited to 20 students with 60 college credits. Specialty areas are selected by the students in the second year and options are pediatrics, radiology, or neurosurgery.

A similar program is offered by the School of Allied Health Professions on the campus of The University of Texas Southwestern Medical School in Dallas. The first class of 12 students began training in 1972. Specialty areas include pediatrics, family practice, internal medicine, radiology, and cardiopulmonary science.

A "generalist" type of physician's assistant program is jointly sponsored by Baylor College of Medicine and VA Hospital. No baccalaureate degree is awarded, but a certificate is received upon graduation. The two-year program began with 20 students in 1971 and increased its capacity to 40 in 1972.

Two of the programs in Texas are sponsored by the military.

The Academy of Health Sciences, US Army, located at Ft. Sam Houston, first offered the physician's assistant program in 1970 as a solution to the increasing scarcity of military medical doctors. Originally structured as an 18-month curriculum, the course was recently expanded for an additional six months to allow students more time to work under physician supervision at selected Army Hospitals throughout the United States. Graduates of the program are awarded academy diplomas and associate of science degrees from Baylor University as well as warrant officer appointments.

The School of Health Care Sciences of the US Air Force, located at Sheppard Air Force Base, trains physician's assistants in affiliation with 15 USAF regional hospitals. Each class of the two-year program is limited to 40 students. Classes are accepted three times a year. A bachelor of science degree is awarded by the University of Nebraska under an inter-institutional agreement.

The role of "physician's assistants" has been under study by TMA's Committee on Health Careers.

Correction

An error appeared in Dr. Louis L. Leatherman's article, "Chest Pain and Abnormal Postexercise ECGs with Normal Coronary Arteriograms in Patients with Click-Late Systolic Murmur Syndrome," in the August 1973 issue. The legend for Fig 5 (p 46) should read, "5. Arrows indicate the prolapse of the posterior leaflet of the mitral valve into the left atrium in this left ventricular angiogram done in the right anterior oblique projection."

UT San Antonio sponsoring seminar series

Physicians at 57 hospitals in Texas and adjoining states will participate in the fourth series of Therapeutics Seminars given by The University of Texas Health Science Center at San Antonio.

The 18 bi-weekly programs for 1973-74 began in September and continue through May.

The seminars are oriented to practical patient care, and cover common medical problems and their current recommended treatment, according to seminar director Dr. Paul Cutler, professor of medicine and associate dean for clinical affairs.

Topics for the coming year include emphysema and bronchitis, hypertension, sexual disorders, vascular headaches, diabetes, ulcers, rheumatic fever and angina pectoris, among others.

The programs are designed especially for family physicians and some other specialists who practice in areas remote from medical centers where educational opportunities are unavailable. The seminars thus help the doctors keep their medical education up-to-date.

Participating hospitals in Texas and some parts of Louisiana, Arkansas, Oklahoma and New Mexico will be linked to the health science center in San Antonio by teleconference hookup.

Participating physicians and other health personnel in the outlying hospitals listen to discussions by telephone and view slides which have been mailed in advance to the hospitals. Question and answer periods are also possible through the teleconference hookup.

About 800 physicians in the five-state area are expected to join in the seminars, Dr. Cutler said. They can receive credit for the courses from the American Academy of Family Physicians and toward the American Medical Association's Physician's Recognition Award.

Note on new vaccine

Texas Medicine has been notified by Dr. M. S. Dickerson, chief, communicable disease services of the Texas State Department of Health, that confusion exists among practitioners concerning the supplemental monovalent type B influenza vaccine reported on previously in the September issue.

A single dose of the monovalent type B influenza vaccine should follow and not be given simultaneously with bivalent vaccine. This is because the additional amount of antigen in the monovalent product might increase the chance of adverse reaction. Furthermore, separating the vaccine by 2 weeks or more might enhance an overall type B antibody response.

The influenza vaccinations should be completed before mid-November.

FDA awaits OTC report

The FDA is delaying its action against prescription cough, cold and allergy products until the Over-the Counter Review Panel has issued its report covering much of the same ground.

Guidelines issued last spring by the FDA would have prohibited the use of combination antitussives and/or expectorants or decongestants for the common cold and the use of antitussives combined with antihistamines and decongestants for allergic or vasomotor rhinitis.

The OTC panel is not expected to issue its report until next year.

Medical Examiners announce top June exam score

The Texas State Board of Medical Examiners has announced that Dr. Charles Bradford Wysong of San Antonio scored the highest grade of the June 11, 12 and 13 examinations.

Dr. Wysong, whose general average was 90.7, will receive a special certificate of commendation with his permanent license certificate.

NEWS

Commission on Nursing forms speakers bureau

The Commission on Nursing in Texas has formed a speakers bureau to help interpret the commission's goal of improving health care through the effective education and utilization of nursing personnel.

Because of an increasing number of requests from organizations and associations across the state for information on the commission and its objectives, the commission has enlisted the aid of 17 of its members in forming a group of speakers well-versed in their own particular field of health care services and in the scope of the Texas commission's concerns as well. Speaking programs will be augmented by slide-tape presentations.

The commission, the state implementing body of the National Commission for the Study of Nursing and Nursing Education, is an interdisciplinary group representing medicine, nursing, education, business, government health programs, and hospital administration. In 1971 Texas was chosen as one of nine target states to demonstrate the implementation of the national commission's major recommendations for increasing quality health care for the American people through the expanded utilization of professional nursing.

The commission requests that groups wishing to invite a speaker from the bureau first contact the commission at PO Box 4756, Austin, Texas 78765.

Public broadcasting stations to present medical documentaries

"The Killers," five hour-and-a-half medical documentaries, will be presented over the 237 interconnected Public Broadcasting Service (PBS) stations across the country starting in November.

The series is designed to inform the public about methods of prevention, early detection, and treatment of the five medical conditions that accounted for 75.7% of deaths — about 1½ million — in the United States last year.

Subjects of the series are: heart disease, Nov 19; inborn genetic defects, Dec 17; pulmonary disease, Jan 14; trauma, Feb 11; and cancer, Mar 11.

To increase the effectiveness of the programs, many PBS stations will use the shows as springboards for community action. Working with the local offices of national health organizations, community medical personnel and other interested citizens, various local stations are planning programming tied into the national series, as well as community follow-up activities such as lectures, workshops, demonstrations and informal clinics. Physician participation in community out-reach programs is being sought by local PBS stations.

An advisory board of 23 representatives of the health and medical professions assisted in the preparation of the programs. "The Killers" will be aired in Texas on the PBS stations serving the Austin, San Antonio, College Station, Corpus Christi, Dallas, Houston, Killeen and Lubbock areas.

Continuing Education Directory set for January publication

The final deadline for the submission of listings of courses and meetings for the fourth annual Continuing Education Directory for Texas physicians is Oct 31.

The directory is scheduled for publication in the January, 1974 issue of *Texas Medicine*. In addition to the continuing education courses, the directory will list scientific medical meetings scheduled during the coming year.

Hospitals, schools, medical societies and other groups wishing to have their courses and meetings included in the directory should contact the *Texas Medicine* office at 1801 N Lamar Blvd, Austin 78701.

ABBOTT

Placidyl®
(ETHCHLORVYNOL)

Brief Summary

Indications—Placidyl (ethchlorvynol) is indicated as short-term hypnotic therapy in the management of insomnia.

Contraindications—Drug hypersensitivity and porphyria.

Warnings—Not recommended during the first and second trimester of pregnancy. Caution patients of possible combined exaggerated effects with alcohol, barbiturates, tranquilizers or other CNS depressants. Exaggerated effects might result in blurring of vision, paralysis of accommodation and profound hypnosis. Caution patients concerning driving a motor vehicle, operating machinery, or other hazardous operations requiring alertness after taking the drug. ADMINISTER WITH CAUTION TO PATIENTS WITH SUICIDAL TENDENCIES AND DO NOT PRESCRIBE LARGE QUANTITIES OF THE DRUG. Adjustment of the dosage of oral anticoagulants might be necessary when beginning ethchlorvynol therapy, during therapy, or after stopping therapy. This drug is not recommended for use in children. PLACIDYL HAS THE POTENTIAL FOR THE DEVELOPMENT OF PSYCHOLOGICAL AND PHYSICAL DEPENDENCE. INSTANCES OF SEVERE WITHDRAWAL SYMPTOMS, INCLUDING CONVULSIONS AND DELIRIUM CLINICALLY SIMILAR TO THOSE SEEN WITH BARBITURATES, HAVE BEEN REPORTED IN PATIENTS TAKING REGULAR DOSES AS LOW AS 1000 MG. PER DAY OVER A PERIOD OF TIME WHEN THE DRUG WAS SUDDENLY DISCONTINUED. PROLONGED ADMINISTRATION OF THE DRUG IS NOT RECOMMENDED. Addiction-prone patients or those who are likely to increase dosages of the drug on their own initiative should be observed for evidence of signs or symptoms which may indicate possible early withdrawal or abstinence symptoms. Signs and symptoms associated with withdrawal and abstinence include unusual anxiety, tremor, ataxia, slurring of speech, memory loss, perceptual distortions, irritability, agitation and delirium. Other less well defined signs and symptoms, not necessarily due to withdrawal and abstinence, may include anorexia, nausea or vomiting, weakness, dizziness, sweating, muscle twitching and weight loss. Abrupt discontinuance of Placidyl following prolonged overdosage may result in convulsions and delirium.

Precautions—Toxic amblyopia has been reported with long-term continuous use of ethchlorvynol. Permanent visual defects have been observed, although amblyopia has improved after discontinuation of the drug. Drug dosage should be limited for elderly and debilitated patients to the smallest effective amount. If pain is present, this drug should only be given if insomnia persists after pain is controlled with analgesics. Caution is advised in prescribing the drug for patients who are being treated with either MAO inhibitors or antidepressants. Transient delirium has been reported with the combination of Placidyl and amitryptyline. Drug dosage should be reduced if prescribed for patients receiving MAO inhibitors or antidepressants. Caution should be exercised in patients with impaired hepatic or renal function. Patients who respond unpredictably to barbiturates or alcohol, or who exhibit excitement and release of inhibition in association with such agents, may also react in this way to Placidyl. Rarely, patients may exhibit symptoms suggestive of an unusual susceptibility to the drug; such as prolonged hypnosis, profound muscular weakness, excitement, hysteria, or syncope without marked hypotension. Transient giddiness or ataxia may occur.

Adverse Reactions—Hypotension, nausea or vomiting, gastric upset, aftertaste, blurring of vision, dizziness, facial numbness, and allergic reaction typified by urticaria have been reported following Placidyl administration. Mild "hangover" and symptoms of mild excitation have occurred in some patients. There have been rare reports of cholestatic jaundice occurring in patients taking ethchlorvynol. A few cases of thrombocytopenia have been reported in patients receiving ethchlorvynol. 306433

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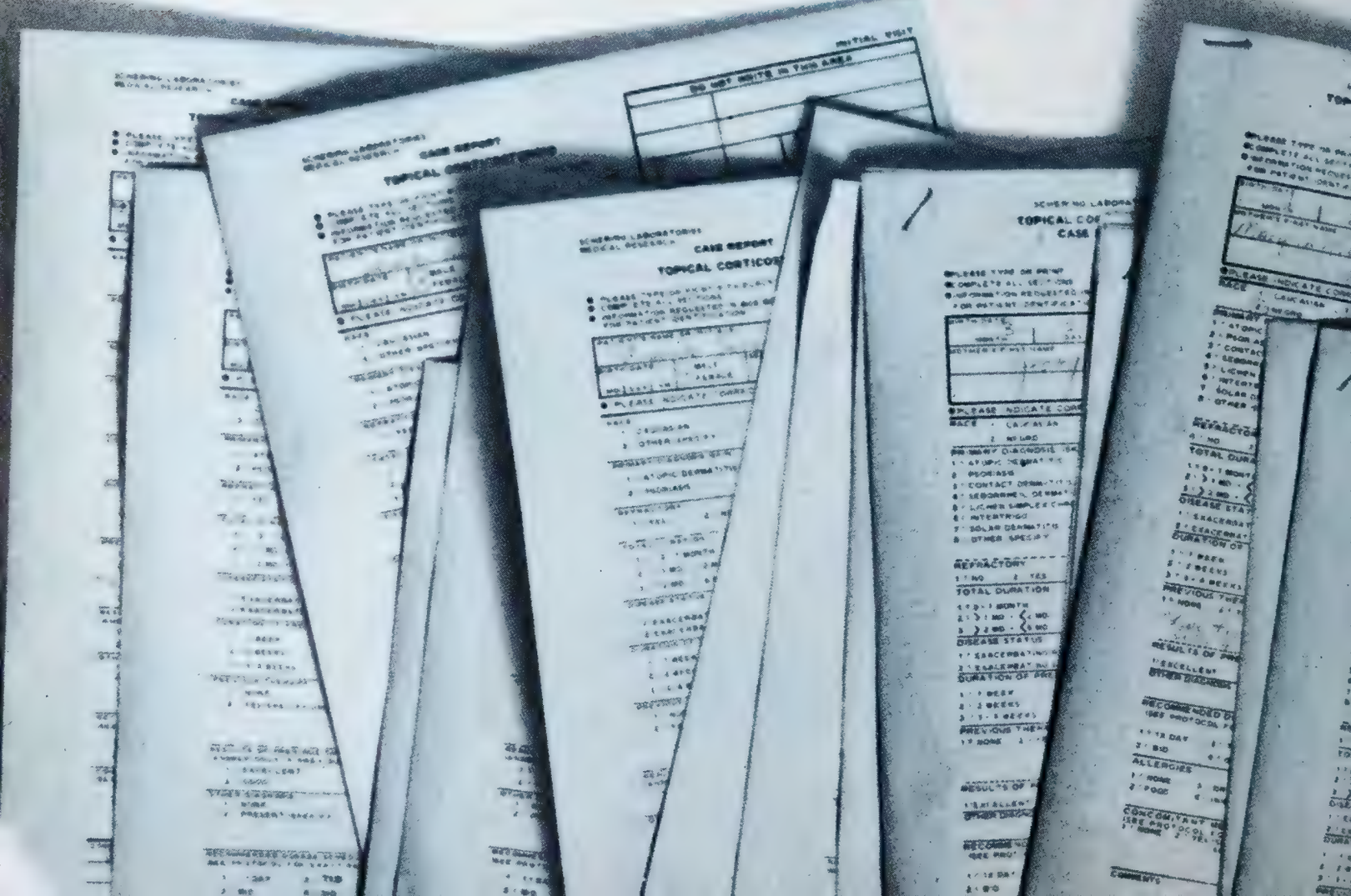
in study...after study...after study[1-6]

Excellent/good results

85% in psoriasis
(150 of 177 patients)[1]

92% in atopic ecz
(231 of 251 patients)[1]



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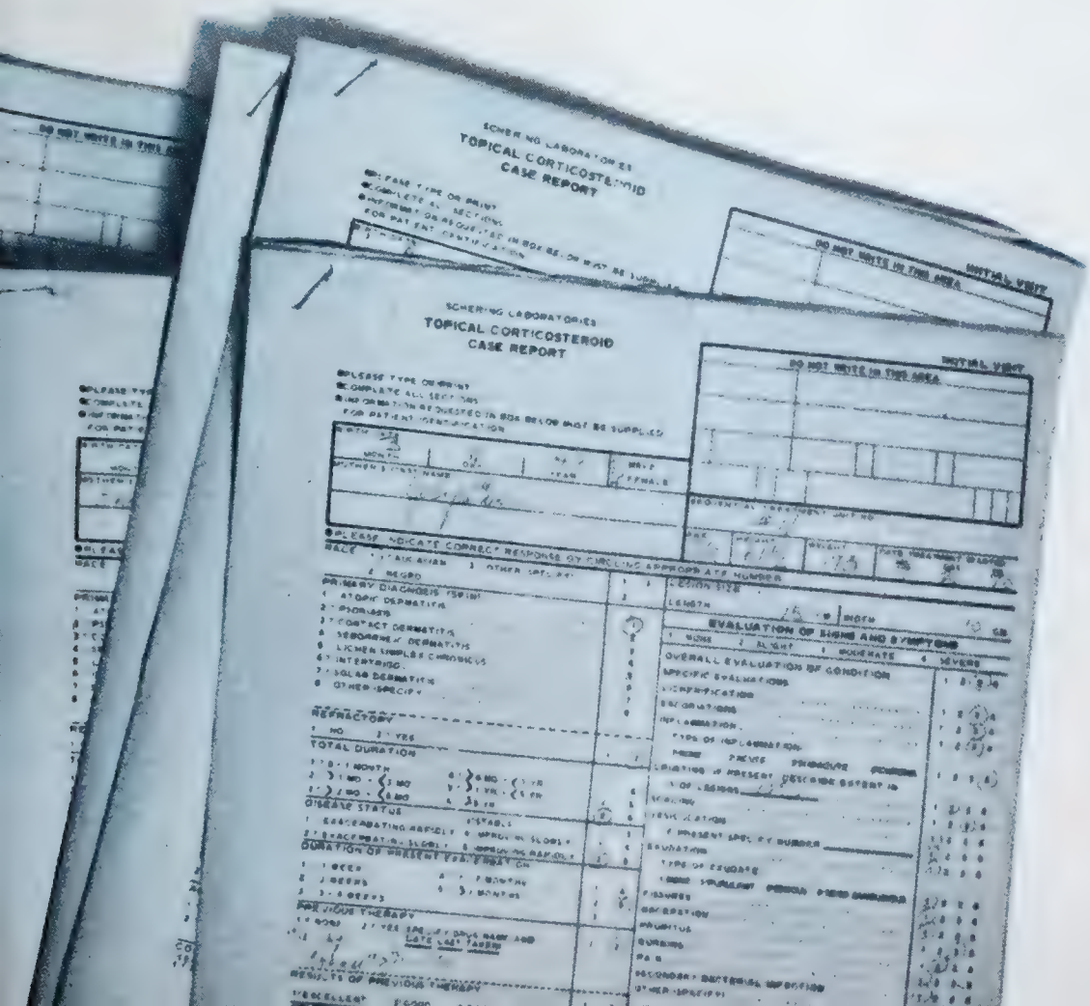

CLINICAL CONSIDERATIONS:

Description VALISONE products contain betamethasone valerate (9-fluoro-11$_\beta$,17,21-trihydroxy-16$_\beta$-methylpregna-1,4-diene-3,20-dione 17-valerate). Each gram of VALISONE Cream 0.1% contains 1.2 mg. betamethasone valerate (equivalent to 1.0 mg. betamethasone) in a soft, white, hydrophilic cream of water, mineral oil, petrolatum, polyethylene glycol 1000 monocetyl ether, cetostearyl alcohol, monobasic sodium phosphate, and phosphoric acid; 4-chloro-m-cresol is present as a preservative. Each gram of VALISONE Ointment 0.1% contains 1.2 mg. betamethasone valerate (equivalent to 1.0 mg. betamethasone) in an ointment base of liquid and white petrolatum, and hydrogenated lanolin. VALISONE Cream and Ointment contain no parabens.

Indications VALISONE Cream and Ointment are indicated for the relief of the inflammatory manifestations of corticosteroid-responsive dermatoses.

Contraindications VALISONE Cream and Ointment are contraindicated in vaccinia and varicella. Topical steroids are contraindicated in those patients with a history of hypersensitivity to any of the components of the preparation.

Precautions If irritation develops with the use of VALISONE Cream or Ointment, treatment should be discontinued and appropriate therapy instituted. In the presence of an infection, the use of an appropriate antifungal or antibacterial agent should be instituted. If a favorable response does not occur promptly, the corticosteroid should be discontinued until the infection has been adequately controlled. If extensive areas are treated or if the occlusive technique is used, the possibility exists of increased systemic absorption of the corticosteroid and suitable precautions should be taken. Although topical steroids have not been reported to have an adverse effect on pregnancy, the safety of their use in pregnant females has not been absolutely established. Therefore, they should not be used extensively in pregnant patients, in large amounts, or for prolonged periods of time. VALISONE Cream and Ointment are not for ophthalmic use.

Adverse Reactions The following local adverse reactions have been reported with topical corticosteroids: burning, itching, irritation, dryness, folliculitis, hypertrichosis, acneform eruptions, and hypopigmentation. The following may occur more frequently with occlusive dressings than without such therapy: maceration of the skin, secondary infection, skin atrophy, striae, and miliaria.

Dosage and Administration Apply a thin film of VALISONE Cream or Ointment to the affected skin areas one to three times a day. Clinical studies of VALISONE have indicated that dosage only once or twice a day is often feasible and effective. AUGUST 1972

For more complete details, consult Schering literature available from your Schering Representative or Professional Services Department, Schering Corporation, Kenilworth, New Jersey 07033.

References: *(1) Files of Headquarters Medical Research Division, Schering Corporation. (2) Carter, V. H., and Noojin, R. O.: Curr. Therap. Res. 9:253, 1967. (3) Falk, M. S.: Cutis 2:788, 1966. (4) Goldblum, R. W.: Pennsylvania Med. 69:50, 1966. (5) Nierman, M. M.: J. Indiana M. A. 10:1184, 1966. (6) Zimmerman, E. H.: Arch. Dermat. 95:514, 1967.*

SLR-439

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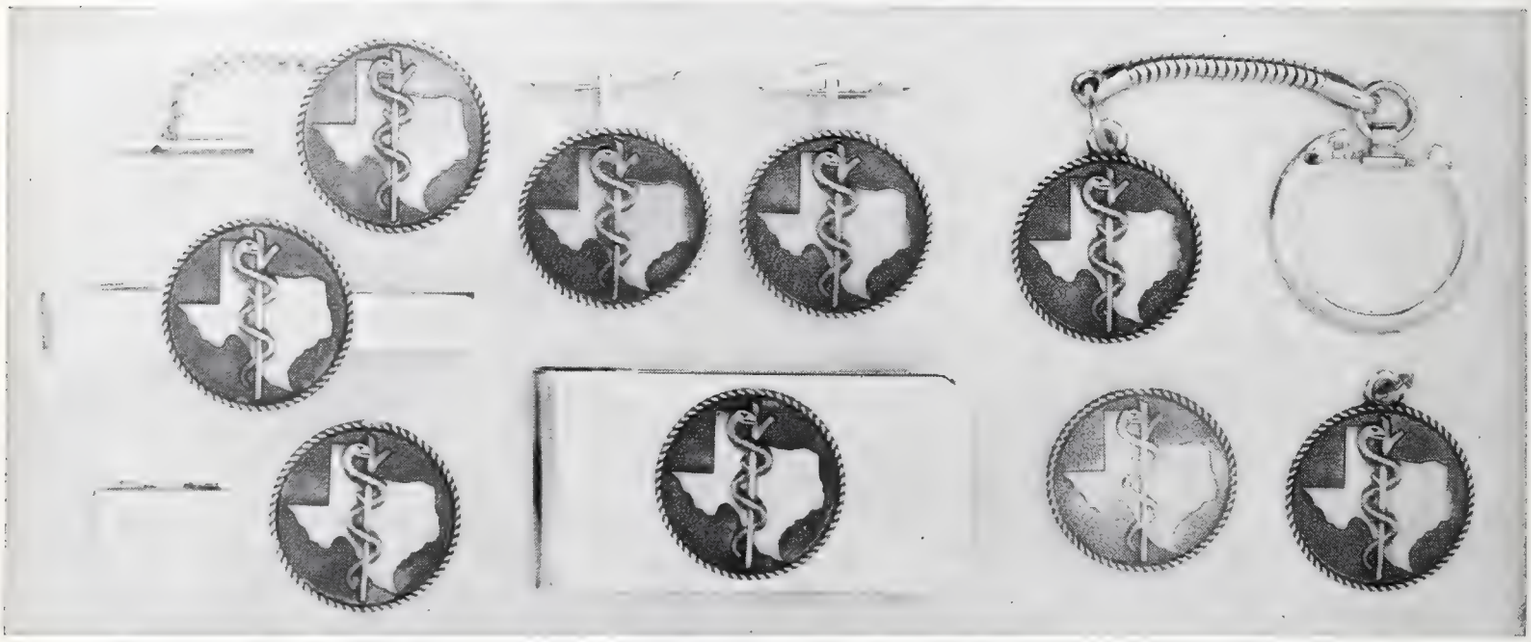

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Government to conduct insurance experiment

In an effort to reach some hard conclusions in the fuzzy area of the impact of various kinds of health insurance on health care, the federal government is starting a $30 million experiment.

Some of the questions that researchers hope to answer are: Would erasure of all financial barriers cause a surge of demand? Do deductibles and co-insurance exert a brake on frivolous or excessive use of physicians and hospitals? Do families alter their patterns of physician-hospital utilization depending upon their type of insurance? How is their health affected?

The study, handled by the Office of Economic Opportunity (OEO) in conjunction with the Health, Education, and Welfare Department, will cover 2,000 families consisting of about 7,500 people. It will last up to five years. About 100 families in Dayton, Ohio, will be enlisted shortly. Four other cities eventually will take part. The participants' identities are confidential. The HEW Department is slated to take over the project next year.

Those in the experiment will have to give up existing health insurance policies. New ones will be provided free as far as policy cost is concerned. The coverage will take three basic forms: (1) No deductible; no co-insurance. Basically unlimited free medical care. (2) $100 yearly per-person deductible, no co-insurance. (3) No deductible, 20 percent co-insurance. There will be variations on these plans. But all will have a catastrophic provision above a certain amount of out-of-pocket costs determined by some fraction of the yearly family income.

Officials concede that Congress may enact a NHI bill before much meaningful data is accumulated from the experiment. Nevertheless, they say, the information will be valuable and could lead to adjustments in any existing national program.

Benefits will vary in the experimental plans. One will cover all visits to physicians' offices while the patients share hospital costs. Psychiatric care will be limited to 50 outpatient visits annually. Dental care will be confined to children and exclude orthodontic work.

Families of all income levels will be included, up to $25,000 a year. All participants will be interviewed in depth; about one-third will receive physical examinations.

The experiment is being conducted under a grant to the Rand Corporation, Santa Monica, Calif; a subcontract for operational work is held by Mathematica, Inc., of Princeton, NJ.

One earlier HEW study, according to the Washington office of the AMA, indicates that average costs per medical visit are much cheaper with the private practitioner than at a neighborhood health center or a pre-paid group practice. The estimated private costs ranged from $6.58 to $10.63 by specialties. In contrast the cost per visit at 18 well-established neighborhood health centers was $21.16. The pre-paid group rate was figured at more than $18.

The report, prepared by the office of the Assistant HEW Secretary of Planning and Evaluation, said that strict comparisons among the three modes of delivery are difficult and subject to interpretation. Yet "the order of magnitude difference was far greater than had been anticipated."

Taking into account all variables, the report said "When related to the estimated private practice average cost per visit the (neighborhood) center physician encounter cost appears to be extreme in nature."

On the surface, though the study group took pains not to put it so bluntly, the report indicated that larger delivery systems might not be as efficient and economical as the solo practitioner.

NEWS

57 Vietnam tours served by Texas doctors

The Volunteer Physicians for Vietnam (VPVN) program was terminated this past summer after eight years of operation and participation of 774 US physicians.

The honor roll roster of VPVN shows that 45 Texas physicians served a total of 57 two-month tours with the program, the third largest number of tours of all the states participating.

The AMA was responsible for the administration of this program under a contract with the Agency for International Development (AID) since 1966. At the termination of the program, AMA officials expressed gratitude to the countless contributions of each participating physician and the continued support of state and county medical societies.

Physicians participating in VPVN provided a high degree of modern health care for the Vietnamese people. In addition, the American volunteers were able to provide medical education for Vietnamese doctors and set up teaching programs for medical auxiliaries.

In May the Vietnam Council on Foreign Relations presented its Meritorious Service Award to the AMA in appreciation for the contributions made through the voluntary services of American physicians.

Texas Medicine Award competition announced

The Scientific Publication Committee for *Texas Medicine* has announced its 9th annual Texas Medicine Award competition for excellence in scientific writing by medical students.

Papers submitted in the competition must deal with a subject within the realm of the basic sciences or medicine and must be prepared by a student who is currently enrolled in a Texas medical school. Articles prepared while a student has been enrolled in a Texas medical school are also acceptable. Only original and unpublished manuscripts will be considered and there is no minimum or maximum word requirement.

All manuscripts must be submitted to the managing editor of *Texas Medicine* by March 15, 1974.

The award, established in 1966 by the Board of Publication and the Scientific Publication Committee, endeavors to encourage and recognize excellence in scientific and medical writing by medical students. Criteria for judging papers are excellence of scientific work and competence of writing. Each entry submitted will be evaluated by the Scientific Publication Committee.

Two awards will be presented with the first place winner receiving $300 and a certificate; the second place winner, $100 and a certificate. In addition, winning articles will be published in a fall issue of *Texas Medicine*.

Last year's winning entries are published in this issue. First place was awarded to Dr. Stan Shoemaker, for "The Effect of Thiazide Diuretics on Placental Function." Second place went to Dr. Michael H. Malloy, for "Anencephaly: A Review." Both are recent graduates of The University of Texas Medical Branch at Galveston.

"On second thought, you can just take the pills."

Rehab programs offered to local societies

The Texas Rehabilitation Commission is offering to provide program speakers for medical society meetings throughout Texas.

The purpose of the project is to better inform Texas physicians of the programs and activities of the Commission and how it can help them and their patients in achieving successful rehabilitation goals.

The Commission offers a broad and comprehensive program to help handicapped persons regain their capacity to enter employment.

Requests and inquiries concerning speakers for programs should be addressed to Dr. Marvin C. Schlecte, State Medical Consultant, Texas Rehabilitation Commission, 1600 W. 38th Street, Austin, Texas 78731.

Statewide PSRO recommended

The National Professional Standards Review Council has voted to recommend to the Department of Health, Education and Welfare that the option to establish statewide PSROs be considered regardless of a state's population.

The AMA has supported a statewide organizational option for any qualified physician group and has also proposed that county or multi-county peer review groups be given the option to be considered separately from statewide PSROs.

The recommendation by the council stated "where the professional association(s) concerned demonstrate a desire and capability of successfully sponsoring a state-level PSRO, the option of an essentially statewide area designation should be considered even though the 2,500 physician general limit is exceeded" and that "area designation considerations within a state recognize that appropriate geographical sub-units within the state with the capability to develop a PSRO which meets law and regulatory requirements can seek, and can be expected to obtain, DHEW area designation."

107th Annual Session scheduled for May

From geriatrics to maternal health to trauma . . . topics covering the wide spectrum of medicine will be featured during conferences and symposiums at the 1974 TMA Annual Session May 9-12 in Houston.

Participating in the 107th Annual Session will be 18 scientific sections, 10 Association committees and 35 specialty and related medical organizations. Scientific programs being developed also include the areas of school health, cardiovascular disease, cancer, family practice, medicine and religion, nutrition and sports medicine.

Emphasis will be on small group discussions and workshops rather than formal lecture presentations to enable more attending physicians to take an active part in the sessions.

The popular Curbstone Consultations will be offered again with 20 topics selected for the discussions.

The Council on Annual Session reports that with preliminary plans and an expanded format the coming session is expected to surpass all previous attainments in attendance and quality programming.

Medical assistants receive certification

Twenty-four medical assistants in Texas have become Certified Medical Assistants by passing the 1973 certification examination conducted by the American Association of Medical Assistants (AAMA).

They are among 356 who will be honored during the AAMA annual convention in Washington, DC Oct 24.

The Texas total includes 11 who will receive administrative certificates, five receiving clinical certification, and eight who were certified in both categories.

NEWS

Physicals required for school bus drivers

In accordance with HB 1387 regarding safety standards for the operation of school buses, the Texas Education Agency has issued provisions for physical examinations for all school bus drivers.

Schools have been supplied the prescribed medical examination forms and the examinations are to be completed at the earliest possible date. This form was developed by the Agency with cooperation of the Department of Public Safety and was reviewed by the School Health Committee of TMA.

The record of each driver's physical examination is to remain in the school's files and is subject to review by the audit staff of the Agency.

The examination relates to areas which reveal each driver's physical and mental capabilities to safely operate a school bus. Various disqualifying conditions include abnormal conditions of the heart and/or circulatory system, convulsive disorders, speech, hearing and visual problems, mental disorders and other defects which would affect the applicant's ability to drive a school bus.

Family planning for welfare recipients

The State Department of Public Welfare reports that on Sept 1 state funds became available for family planning services and supplies as mandated by the Social Security Amendments of 1972.

The Department's family planning effort is to provide former, current and potential welfare recipients the opportunity to control family size. Individuals have complete freedom of choice in accepting or rejecting services, and as to the contraceptive method considered to be medically feasible.

Under Title XIX (Medicaid), reimbursement for services provided to current welfare recipients is made to hospitals, private physicians and agency/clinic providers.

Reimbursement for services provided to former and potential recipients will be made to agency/clinic providers with Title IV-A (services to families and children) funds via direct contracts with the Department of Public Welfare Contract Services Division.

TMA dues to increase

Membership dues for the Texas Medical Association will increase from $70 to $80 per year in 1974.

During the May Annual Session the TMA Board of Trustees asked for and received permission to levy the $10 increase in 1974 and an additional $5 when needed. TMA dues are used solely to provide services for members. An outline of these services and the necessity of the dues increase was carried in the August issue of *Texas Medicine*.

UNIT VALUES FOR TMA MEMBERS RETIREMENT PLAN AND TRUST

(As a service to participants in the TMA Members Retirement Plan and to physicians interested in enrolling in the program, comparative values for investments are listed. Figures shown are the latest available at press deadline and are for comparison purposes only. Most daily newspapers list up-to-the-minute values on mutual funds.)

Investment media	Original price 9-30-68	Net asset value per share 8-31-73	Net asset value per share 8-31-73[1]
Mercantile National Bank Stock Fund	$10.25	$10.79	$10.79
Loomis-Sayles Capital Development Fund	14.20	13.08	14.72
T. Rowe Price Growth Stock Fund[2]	25.93	13.58	15.25
Loomis-Sayles Mutual Fund	16.82	14.39	17.63
Stein Roe & Farnham Balanced Fund	23.34	20.72	24.17
Mercantile Bank Fixed Income Fund	10.00	11.40	11.40

[1]Adjusted to include dividends and distributions since 9-30-68.
[2]Stock split two for one, May, 1973.

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Contraindications: Porphyria, sensitivity to barbiturates, or susceptibility to dependence on sedative-hypnotics. **Warning:** May be habit forming. **Precautions:** Exercise caution in: moderate to severe hepatic disease; withdrawal in drug dependence or the taking of excessive doses over a long period, to avoid withdrawal symptoms; elderly or debilitated patients, to avoid possible marked excitement or depression; use with alcohol or other CNS depressants, because of combined effects. **Adverse Reactions:** Drowsiness at daytime sedative dose levels, skin rashes, "hangover" and gastrointestinal disturbances are seldom seen. **Usual Adult Dosage:** For daytime sedation, 15 mg. to 30 mg. t.i.d. or q.i.d. For hypnosis, 50 mg. to 100 mg. **Available as:** Tablets, 15 mg., 30 mg., 50 mg., 100 mg.; Elixir, 30 mg. per 5 cc. (alcohol 7%). BUTICAPS® [Capsules BUTISOL SODIUM (sodium butabarbital)] 15 mg., 30 mg., 50 mg., 100 mg.

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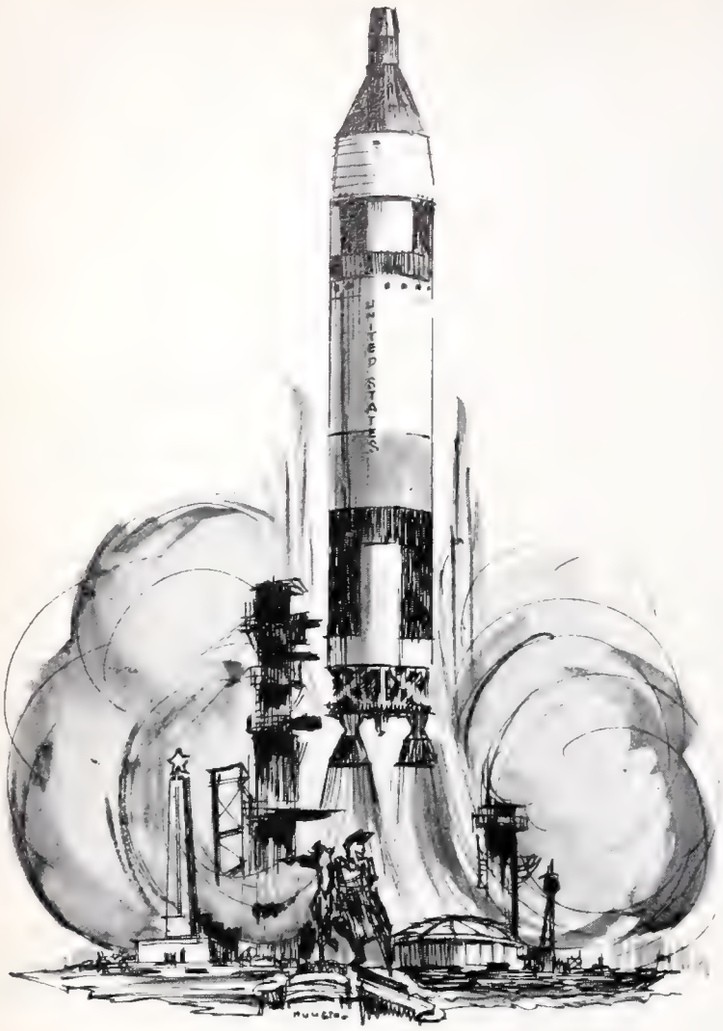

TEXAS MEDICAL ASSOCIATION 107TH ANNUAL SESSION

HOUSTON, MAY 9-12, 1974

ANNUAL SESSION FEATURES:

18 Section Programs — 30 Specialty Programs — 20 Curbstone Consultations — 175 Technical and Scientific Exhibits — 14 Continental Breakfast Presentations — 11 Special Symposiums

HEADQUARTERS:

Shamrock Hilton Hotel
Scientific Sessions and Exhibits

Astroworld Hotel/Motels
House of Delegates and Business Sessions

Warwick Hotel
Woman's Auxiliary Meetings

PLAN NOW TO ATTEND. Housing and Advance Registration information will be available in January-April issues of TEXAS MEDICINE and a Special Convention Program published in March 1974.

PROLOID® (thyroglobulin)
Caution: Federal law prohibits dispensing without prescription.

Description. Proloid (thyroglobulin) is obtained from a purified extract of frozen hog thyroid. It contains the known calorigenically active components, Sodium Levothyroxine (T_4) and Sodium Liothyronine (T_3). Proloid (thyroglobulin) conforms to the primary USP specifications for desiccated thyroid—for iodine based on chemical assay—and is also biologically assayed and standardized in animals.

Chromatographic analysis to standardize the Sodium Levothyroxine and Sodium Liothyronine content of Proloid (thyroglobulin) is routinely employed.

The ratio of T_4 and T_3 in Proloid (thyroglobulin is approximately 2.5 to 1.

Proloid (thyroglobulin) is stable when stored at usual room temperature.

Indications. Proloid (thyroglobulin) is thyroid replacement therapy for conditions of inadequate endogenous thyroid production: e.g., cretinism and myxedema. Replacement therapy will be effective only in manifestations of hypothyroidism.

In simple (nontoxic) goiter, Proloid (thyroglobulin) may be tried therapeutically, in nonemergency situations, in an attempt to reduce the size of such goiters.

Contraindication. Thyroid preparations are contraindicated in the presence of uncorrected adrenal insufficiency.

Warnings. Thyroglobulin should not be used in the presence of cardiovascular disease unless thyroid-replacement therapy is clearly indicated. If the latter exists, low doses should be instituted beginning at 0.5 to 1.0 grain (32 to 64 mg) and increased by the same amount in increments at two-week intervals. This demands careful clinical judgment.

Morphologic hypogonadism and nephroses should be ruled out before the drug is administered. If hypopituitarism is present, the adrenal deficiency must be corrected prior to starting the drug.

Myxedematous patients are very sensitive to thyroid and dosage should be started at a very low level and increased gradually.

Precaution. As with all thyroid preparations this drug will alter results of thyroid function tests.

Adverse Reactions. Overdosage or too rapid increase in dosage may result in signs and symptoms of hyperthyroidism, such as menstrual irregularities, nervousness, cardiac arrhythmias, and angina pectoris.

Dosage and Administration. Optimal dosage is usually determined by the patient's clinical response. Confirmatory tests include BMR, T_3 ^{131}I resin sponge uptake, T_3 ^{131}I red cell uptake, Thyro Binding Index (TBI), and Achilles Tendon Reflex Test. Clinical experience has shown that a normal PBI (3.5-8 mcg/100 ml) will be obtained in patients made clinically euthyroid when the content of T_4 and T_3 is adequate. Dosage should be started in small amounts and increased gradually with increments at intervals of one to two weeks. Usual maintenance dose is 0.5 to 3.0 grains (32 to 190 mg) daily.

Overdosage Symptoms. Headache, instability, nervousness, sweating, tachycardia, with unusual bowel motility. Angina pectoris or congestive heart failure may be induced or aggravated. Shock may develop. Massive overdosage may result in symptoms resembling thyroid storm. Chronic excessive dosage will produce the signs and symptoms of hyperthyroidism.

(Treatment: In shock, supportive measures should be utilized. Treatment of unrecognized adrenal insufficiency should be considered.)

How Supplied. ¼ grain; ½ grain; scored 1 grain; 1½ grain; scored 2 grain; 3 grain; and scored 5 grain tablets, in bottles of 100 and 1000.

Full information available on request.

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Important, too, is the fact that Proloid is invariably "fresh" when your patients take it. Under proper storage conditions, its potency will not diminish for at least four years.

All of which adds up to this: the potency of Proloid is constant...for more consistent results.

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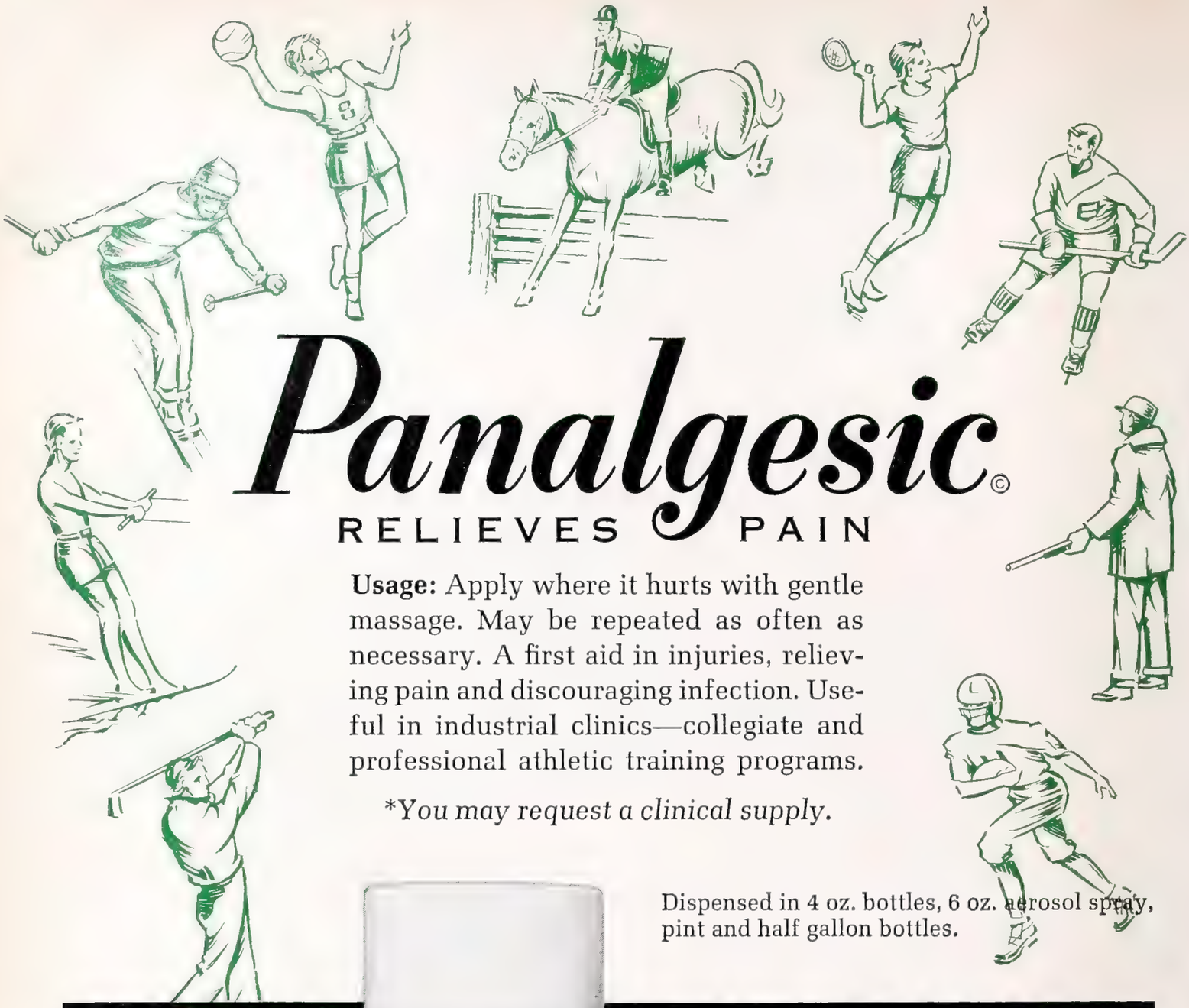
(thyroglobulin)

natural thyroid therapy that leaves nothing to chance



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TEXAS MEDICAL ASSOCIATION

The House of Delegates of the Texas Medical Association will meet Nov. 3-4, in Austin. Following opening remarks by the President of TMA, Dr. Charles B. Dryden, and Speaker of the House, Dr. Jack B. Lee, Reference Committees will meet. The House will reconvene again Sunday morning to receive reports from the Reference Committees.

Contact: C. Lincoln Williston, 1801 N. Lamar Blvd., Austin 78701 Exec. Sec.

TEXAS ACADEMY OF FAMILY PHYSICIANS

The 24th Annual Scientific Assembly of the Texas Academy of Family Physicians will present a variety of small group sessions on campus at The University of Texas Medical School at San Antonio as a special part of its program. Meeting Nov. 4-7, at the St. Anthony Hotel, the Assembly will provide such topics as Abortion in Texas; What's New in Hypertension; Frontiers in Neurology—Neuro Surgery; The Latest in Newborn Care; Drug Interactions—Epidemic of the Decade; Human Sexuality in the United States; and Advances in Coronary Heart Disease for their regular program. Registration fees: $50, members; $75, nonmembers.

Contact: Donald C. Jackson, 1905 N. Lamar Blvd., Austin 78705, Exec. Off.

SOUTHERN MEDICAL ASSOCIATION

The 67th Annual Meeting of the Southern Medical Association will be held Nov. 11-14, in the San Antonio Convention Center. Purpose of the meeting is to help keep physicians up to date on the latest methods, medicines, research findings, and advances in equipment and technology. The meeting also offers a variety of medical and scientific programs. Lunch and Learn sessions, sponsored by various specialty sections, feature topics of interest for all physicians. The scientific program will include postgraduate courses on Facial Trauma; Emergency Medicine; American Fertility Society; Surgical Infections; Orthopedic Nurses; Radiological Society of North America Refresher Courses; and Dermatology Postgraduate Courses. Registration fee $20, nonmembers.

Contact: Southern Medical Association, 2601 Highland Ave., Birmingham, Ala. 35205.

COMING MEETINGS

CURRENT MEETINGS IN TEXAS

TEXAS DERMATOLOGICAL SOCIETY will hold its fall meeting in conjunction with the Southern Medical Association, Nov. 10-13, at El Tropicano Hotel and San Antonio Convention Center, San Antonio. Presentations will be made on the following subjects: Aphthous Stomatitis: Treatment with Autogenous Vaccine Therapy; Cicatricial Pemphigoid; Cryosurgery in Dermatologic Office Practice with Special Reference to Benign Tumors; Irritant Reactions in Negro and Caucasian Skin; Serum Complement Related to Skin Lesions of Systemic Lupus Erythematosus; Snuff Dippers Keratosis; White Sponge Nevus of the Tongue: A Case Report; Herpes Zoster: A Retrospective Study; Chronic Cutaneous Herpes Simplex Treatment by Neutral Red Photosensitization; Cosmetic Office Procedures; and Current Concepts of Toxic Epidermal Necrolysis. Contact: Dr. Eugene P. Schoch, Jr., Texas Dermatological Society, 3A Medical Arts Square, Austin 78705.

AMERICAN ASSOCIATION FOR CLINICAL IMMUNOLOGY AND ALLERGY will hold its annual meeting Nov. 29-Dec. 2, at the Hilton Palacio Del Rio Hotel, San Antonio. Contact: Dr. Robert J. Brennan, American Association for Clinical Immunology and Allergy, 3471 N. Federal Hwy, Ft. Lauderdale, Fla. 33306, Pres.-Elect.

AMERICAN COLLEGE OF SURGEONS' Committee on Trauma and The University of Texas Southwestern Medical School will present a four-day seminar on "Life-Saving Measures for the Critically Injured," Nov. 26-29, at the Hilton Inn, Dallas. The seminar is designed particularly for rural and general practitioners; however, the curriculum is useful also for surgical specialists and internists. Special guest speaker, Richard E. Gray, Dallas attorney, will discuss "Legal Aspects of Emergency Care." Contact: Dr. Ronald C. Jones, The University of Texas Southwestern Medical School, 5323 Harry Hines Blvd., Dallas 75235.

For other courses and symposiums, see Continuing Education Courses, pp. 55-56.

AMERICAN SOCIETY OF TROPICAL MEDICINE AND HYGIENE will sponsor its 22nd Annual Meeting Nov. 6-9, at the Shamrock Hilton Hotel, Houston. Vector Competence in Relation to Epidemiology and Control will be the general topic of the symposium. For more information, contact: Dr. James Steele, School of Public Health, The University of Texas at Houston, PO Box 20186, Astrodome Station, Houston 77025.

THE UNIVERSITY OF TEXAS M. D. ANDERSON HOSPITAL AND TUMOR INSTITUTE "Radiologic and Other Biophysical Methods in Tumor Diagnosis" will be the subject of the 18th Annual Clinical Conference on Nov. 7-9, at the Shamrock Hilton Hotel, Houston. The meeting will cover recent advances in cancer radiology, nuclear imaging techniques as applied to oncology, and the use of other physical parameters in oncologic diagnosis and treatment planning. Contact: Mrs. Jane Brandenberger, M.D. Anderson Hospital, Houston 77025, Information Coordinator.

CURRENT NATIONAL MEETINGS

ACADEMY OF PSYCHOSOMATIC MEDICINE's 20th Annual Meeting will be held Nov. 18-20 at Williamsburg Lodge, Williamsburg, Va. Theme of the meeting is "The New Amongst the Old." Registration fees: $20, members; $30, non-members; $15, students, interns and residents. Contact: Dr. Karr Shannon, The Academy of Psychosomatic Medicine, 813 River Rd., Shreveport, La. 71105, Exec. Dir.

AMERICAN ACADEMY OF PEDIATRICS will hold its 42nd Annual Meeting Oct. 20-24 in Chicago. Highlights will be discussions on drug abuse, sudden infant death syndrome, human sexuality, and learning disorders. Round table discussions planned for the meeting include dermatology, child development, day care centers, pulmonary disorders, allergy, and screening. The seminars will concentrate on topics as immunology, behavioral problems, growth disorders, renal disease, and adolescence. Contact: Dr. Robert G. Frazier, PO Box 1034, Evanston, Ill. 60204, Exec. Dir.

AMERICAN ASSOCIATION FOR AUTOMOTIVE MEDICINE's 17th Annual Meeting will be held Nov. 14-17, in the Hilton Inn West, Oklahoma City. Medical topics for consideration at the meeting include Analysis of Rollover Accident Injury Causation Mechanisms; A Study of Injury Severity Patterns from Belted and Unbelted Passengers; An Objective Method of Assessing Laceration Damage to Simulated Facial Tissue; Characterization of Lower Extremity Fractures as an Example of Accident File Data Analysis Techniques; and Injury Mechanisms in Motorcycle Collisions. Contact: Page Waller, Office of Public Information and Health Education, Oklahoma State Department of Health, N.E. 10th and Stonewall, Oklahoma City 73105.

AMERICAN ASSOCIATION OF BLOOD BANKS will hold its 26th Annual Meeting Nov. 10-15, at the Americana Hotel, Bal Harbour, Fla. The scientific program will consist of three days of invited and submitted papers. "Recent Advances in Immunohematology" is the topic of the technical seminar which features Dr. Serafeim P. Masouredis, University of California School of Medicine; Dr. Neil Abramson, Chief of Hematology Division of the University Hospital, Jacksonville, Fla.; and Dr. Bruce C. Gilliland, University of Washington School of Medicine, Seattle; as guest speakers. For further information, contact: Amercan Association of Blood Banks, Suite 608, 1828 L St, Washington, DC 20036.

AMERICAN ASSOCIATION OF GYNECOLOGICAL LAPAROSCOPISTS will present its First International Congress of Gynecological Laparoscopy Nov. 17-20 at the Fairmont Roosevelt Hotel, New Orleans. The program will include experts in the field of laparoscopy, culdoscopy, hysteroscopy, and amnioscopy. There will also be film series, exhibits, and round table discussions. Registration fee: $150. Contact: Dr. Jordan M. Phillips, 11239 S. Lakewood Blvd., Downey, Calif. 90241.

AMERICAN CANCER SOCIETY's National Conference on Virology and Immunology in Human Cancer will be held Nov. 29-Dec. 1, at the Waldorf-Astoria Hotel, New York. Presentations will be made on research and clinical investigation in virology and immunology and the assessment and implications of this work in the prevention and treatment of human cancer. There is no registration fee. Contact: Dr. Sidney L. Arje, American Cancer Society, Inc., 219 E. 42nd St., New York 10017.

AMERICAN COLLEGE OF PREVENTIVE MEDICINE will sponsor its 20th Annual Meeting Nov. 4-6, at the Hilton Hotel, San Francisco. During the session, F. Andrew Boddy, MB, of the Department of Epidemiology and Preventive Medicine, the University of Glasgow, Scotland, will present the 17th annual ACPM Lectureship speaking on "The Effect of Changes in Health Services on Teaching of Preventive Medicine." Contact: Ward Bentley, American College of Preventive Medicine, 801 Old Lancaster Rd., Bryn Mawr, Pa. 19010, Exec. Dir.

COLORADO HEART ASSOCIATION will sponsor its 20th Western Cardiac Conference Nov. 2-3 in Denver. Theme of the meeting is "Humane Aspects of Heart Attacks," and guest speakers will discuss the heart, you, and sex; the prediction and prevention of coronary disease; and prospecting heart disease. Registration fee: $25. Contact: Colorado Heart Association, 1375 Delaware Street, Denver 80204.

AMERICAN HUMANE ASSOCIATION announces the Third National Symposium on Protecting the Abused, the Neglected, and the Sexually Exploited Child. It will be held Oct. 23 at the Francis Marion Hotel, Charleston, SC. The symposium will engage in an interdisciplinary exploration of these problems and their dimensions: of the implications for the victim and parents; of the implications for the community in terms of coordination of services; and of the more promising approaches if we are to protect the child in hazard. Contact: Children's Division, The American Humane Association, PO Box 1266, Denver, Colo. 80201.

AMERICAN SOCIETY OF PLASTIC AND RECONSTRUCTIVE SURGEONS, INC., will present a combined meeting with its Educational Foundation, and the American Society of Maxillofacial Surgeons Oct. 21-26 at the Diplomat Hotel in Hollywood, Fla. The meeting will be composed of simultaneous scientific sessions, film and slide presentations, live televised operations, panels and requested videotaped reruns. There will also be 90 technical and scientific exhibits. Contact: Dallas F. Whaley, 29 E. Madison St., Suite 807, Chicago 60602, Exec. VPres.

THE ORTON SOCIETY's 24th Annual Specific Language Disability Conference will be held in Baltimore Nov. 8-11. Children with language disabilities will be the subject of the four-day symposium. Contact: Harold C. Donofrio, The Orton Society, Inc., Suite 204, 8415 Bellona Lane, Towson, Md. 21204.

SOCIETY FOR COMPUTER MEDICINE announces its Third National Conference Nov. 8-10, in Denver. The conference will include sessions on multiphasic testing, computer EKG's, on-line patient monitoring, laboratory systems, medical information systems, history systems, computer based medical records, and medical standards and automation. Contact: Dr. Joseph M. Edelman, Society for Computer Medicine, 200 Professional Center, 244 Peachtree Blvd., Baton Rouge, La. 70806, Pres.

Calendar of Listings

■ Denotes Texas Meetings

NOVEMBER

AMERICAN ACADEMY OF NEUROLOGICAL SURGERY, Pasadena, Calif., Nov. 14-17, 1973. Dr. Russell H. Patterson, Jr., 525 E. 68th St., New York 10021, Sec-Treas.

AMERICAN ASSOCIATION FOR RESPIRATORY THERAPY, Atlanta, Nov. 11-14, 1973. Winfield S. Singletary, 7411 Hines Pl., Dallas 75235, Exec. Off.

AMERICAN COLLEGE OF OBSTETRICIANS AND GYNECOLOGISTS, Honolulu, Nov. 5-9, 1973. ACOG Convention Coordination Center, Suite 1016, 2222 Kalakaua Ave., Honolulu 96815.

AMERICAN HEART ASSOCIATION, Atlantic City, N.J., Nov. 8-13, 1973. William Moore, 44 E. 23rd St., New York 10010, Exec. Dir.

AMERICAN MEDICAL WOMEN'S ASSOCIATION, Palm Beach, Fla., Nov. 7-10, 1973. Gertrude Conroy, 1740 Broadway, New York 10019, Exec. Sec.

AMERICAN SOCIETY OF CYTOLOGY, Salt Lake City, Nov. 7-10, 1973. Dr. Warren R. Lang, 7112 Lincoln Dr., Philadelphia 19119, Sec-Treas.

ASSOCIATION FOR ACADEMIC SURGERY, Rochester, NY, Nov. 1-3, 1973. Dr. James Cerilli, Ohio State University Hospital, 410 W. 10th Ave., Columbus, Ohio 43210, Sec-Treas.

ASSOCIATION OF AMERICAN MEDICAL COLLEGES, Washington, DC, Nov. 4-8, 1973. Dr. Charles C. Sprague, 1 Dupont Circle, NW, Washington, DC 20036, Chrmn.

ASSOCIATION FOR CLINICAL SCIENTISTS, Washington, DC, Nov. 2-4, 1973. Dr. F. William Sunderman, Jr., University of Connecticut School of Medicine, PO Box G, Farmington, Conn. 06032, Treas.

ASSOCIATION OF MILITARY SURGEONS OF THE UNITED STATES, Washington, DC, Nov. 25-28, 1973. RADM. Walter Welham, 8502 Connecticut Ave., Chevy Chase, Md. 20015, Exec. Dir.

INTERNATIONAL CONGRESS OF GYNECOLOGICAL LAPAROSCOPY, New Orleans, Nov. 17-20, 1973. Dr. Jordan M. Phillips, 11239 S. Lakewood Blvd., Downey, Calif. 90241.

SOCIETY OF NUCLEAR MEDICINE, Kansas City, Kan., Nov. 17-18, 1973. Dr. Ralph G. Robinson, Dept. of Diagnostic Radiology, Kansas University Medical Center, Kansas City, Kan. 66103.

■ **TEXAS NURSING HOME ASSOCIATION, San Antonio, Nov. 8-10, 1973. Sidney D. Rich, 6225 Hwy 290 East, Austin 78723, Exec. Off.**

■ WESTERN SURGICAL ASSOCIATION, Houston, Nov. 14-17, 1973. Dr. William P. Mikkelsen, 1127 Wilshire Blvd., Los Angeles 90017, Sec.

DECEMBER

AMERICAN ACADEMY OF DERMATOLOGY, Chicago, Dec. 1-6, 1973. Mrs. Betty Suor, 2250 NW Flanders St., Portland, Ore. 97210, Exec. Sec.

AMERICAN ACADEMY OF PSYCHOANALYSIS, New York City, Dec. 7-9, 1973. Dr. Jos. Barnett, 8 E. 77th St., New York 10009, Sec.

AMERICAN MEDICAL ASSOCIATION, clinical convention, Anaheim, Calif., Dec. 1-5, 1973. AMA, 535 N. Dearborn St., Chicago 60610.

■ HERMANN HOSPITAL ALUMNI MEETING of the Department of Ophthalmology of The University of Texas Medical School, Houston, Dec. 15, 1973. Dr. Richard S. Ruiz, Department of Ophthalmology, 1121 Hermann Professional Bldg., Houston 77025, Dir.

SOUTHERN SURGICAL ASSOCIATION, Hot Springs, Va., Dec. 3-5, 1973. Dr. David C. Sabiston, Jr., Dept. of Surgery, Duke University Medical Center, Durham, N.C. 27710, Sec.

■ **SOUTHWESTERN GYNECOLOGIC ASSEMBLY, Dallas, Dec. 7-9, 1973. Dr. R. Mainord Todd, 8226 Douglas, Dallas 75225, Sec.**

■ TEXAS ACADEMY OF INTERNAL MEDICINE, Houston, Dec. 6, 1973. Dr. Tom W. Duke, PO Box 3460, Amarillo 79106, Sec.

■ TEXAS SOCIETY OF OPHTHALMOLOGY AND OTOLARYNGOLOGY, Austin, Dec. 7-8, 1973. Dr. Bert A. DeBord, Jr., Scott & White Clinic, Temple 76501, Sec.

JANUARY

AMERICAN ACADEMY OF ALLERGY, Bal Harbour, Fla., Jan. 19-23, 1974. James O. Kelley, 225 E. Michigan, **Milwaukee, Wisc. 53202, Exec. Dir.**

■ AMERICAN ACADEMY OF ORTHOPAEDIC SURGEONS, Dallas, Jan. 17-22, 1974. Charles V. Heck, 430 N. Michigan Ave., Chicago 60611, Exec. Dir.

■ AMERICAN SOCIETY FOR SURGERY OF THE HAND, Dallas, Jan. 15-17, 1974. Dr. Ray A. Ellictt, Jr., 23 Hackett Blvd., Albany, NY 12208, Pub. Com.

SOUTHWEST ALLERGY FORUM, Phoenix, Ariz., Jan. 14-16, 1974. Dr. E. G. Barnet, 550 W. Thomas Rd., Suite 233D, Phoenix 85013, Pres.

■ **TEXAS MEDICAL ASSOCIATION, Austin, Jan. 18-20, 1974. C. Lincoln Williston, 1801 N. Lamar Blvd., Austin 78701, Exec. Sec.**

■ TEXAS SOCIETY OF PATHOLOGISTS, McAllen, Tex., Jan., 1974. Dr. James C. Stinson, Scott & White Clinic, Temple 76501, Sec.

■ UNITED CEREBRAL PALSY ASSOCIATION OF TEXAS, INC., Houston, Jan. 1974. L. D. Harris, 4810 Shoal Creek, Austin 78756.

FEBRUARY

■ AMERICAN ACADEMY OF FORENSIC SCIENCES, Dallas, Feb. 13-16, 1974. Harlan L. Kimball, PO Box 302, New Hartford, Conn. 60657, Exec. Off.

AMERICAN COLLEGE OF CARDIOLOGY, New York City, Feb. 11-15, 1974. Wm. D. Nelligan, 9650 Rockville Pike, Bethesda, Md. 20014.

■ AMERICAN COLLEGE OF SURGEONS, SOUTH TEXAS CHAPTER, Temple, Tex., Feb. 1-2, 1974. Dr. Peter B. Fisher, 615 Medical Towers, Houston 77025, Sec.

AMERICAN HOSPITAL ASSOCIATION, Washington, DC, Feb. 4-7, 1974. James E. Hague, 840 N. Lake Shore Dr., Chicago 60611, Sec.

■ FIRST DISTRICT MEDICAL SOCIETY, El Paso, Feb. 1-2, 1974. Dr. John Emmett, 612 University Towers, El Paso 79902, Sec.

■ INTERNATIONAL MEDICAL ASSEMBLY OF SOUTHWEST TEXAS, San Antonio, Feb. 28-Mar. 1, 1974. S. E. Cockrell, Jr., 202 W. French Pl., San Antonio 78212.

SOCIETY FOR CONTEMPORARY OPHTHALMOLOGY, Miami Beach, Feb. 6-10, 1974. Dr. John G. Bellows, 30 N. Michigan Ave., Chicago 60602, Exec. Dir.

■ TEXAS PUBLIC HEALTH ASSOCIATION, Houston, Feb. 17-20, 1974. Robert E. Monroe, 1117 W. 42nd, No. 201, Austin 78756, Exec. Sec.

MARCH

AMERICAN ASSOCIATION OF PATHOLOGISTS AND BACTERIOLOGISTS, San Francisco, Mar. 9-12, 1974. Robert Learmouth, 9650 Rockville Pike, Bethesda, Md. 20014.

AMERICAN SOCIETY OF ABDOMINAL SURGEONS, Las Vegas, Mar. 29-Apr. 3, 1974. Dr. Blaise F. Alfano, 675 Main St., Melrose, Mass. 02176.

AMERICAN SOCIETY FOR CLINICAL PHARMACOLOGY AND THERAPEUTICS, Maui, Hawaii, Mar. 24-25, 1974; San Francisco, Mar. 28-29, 1974. Elaine Galasso, 1718 Gallagher Rd., Norristown, Pa. 19401.

■ DALLAS SOUTHERN CLINICAL SOCIETY, Dallas, Mar. 18-20, 1974. Robert L. Heath, 433 Medical Arts Bldg., Dallas 75201.

■ FIFTH DISTRICT MEDICAL SOCIETY, San Antonio, Mar. 1, 1974. S. E. Cockrell, Jr., 202 W. French Pl., San Antonio 78212.

NEW ORLEANS GRADUATE MEDICAL ASSEMBLY, New Orleans, Mar. 11-14, 1974. Dr. Daniel C. Riordan, 1430 Tulane, New Orleans 70112, Pres.

■ NINTH DISTRICT MEDICAL SOCIETY, Sealy, Mar. 21, 1974. Dr. Max M. Diamond, 3332 Plainview, Pasadena 77504, Pres.

■ PRIVATE CLINICS AND HOSPITALS ASSOCIATION OF TEXAS, Houston, Mar. 21-22, 1974. Mrs. Judy Nichols, PO Box 155, Stephenville, Tex., Exec. Sec.

SOCIETY OF NUCLEAR MEDICINE, SOUTHWEST CHAPTER, Oklahoma City, Mar. 15-17, 1974. Dr. Thomas P. Haynie, 6723 Bertner, Houston 77025, Sec-Treas.

■ TEXAS ASSOCIATION OF OBSTETRICIANS AND GYNECOLOGISTS, Galveston, Mar. 8-9, 1974. Dr. Dennis M. Voulgaris, 2100 N. Fulton, Wharton, Tex. 77488, Sec.

■ TEXAS RADIOLOGICAL SOCIETY, San Antonio, Mar. 21-23, 1974. Dr. Francis E. O'Neill, 1128 Nix Prof. Bldg., San Antonio 78205, Sec-Treas.

APRIL

AMERICAN ACADEMY OF FACIAL PLASTIC AND RECONSTRUCTIVE SURGERY, Palm Beach, Fla., Apr. 20-22, 1974. Dr. Carl N. Patterson, 1110 W. Main St., Durham, NC, Exec. Off.

AMERICAN ACADEMY OF NEUROLOGY, San Francisco, Apr. 22-27, 1974. Stanley A. Nelson, 4005 W. 65th St., Minneapolis, Minn. 55435, Exec. Dir.

AMERICAN ASSOCIATION OF ANATOMISTS, Cleveland, Apr. 1-4, 1974. Dr. John E. Pauly, Dept. of Anatomy, University of Arkansas Medical Center, Little Rock 72201.

AMERICAN ASSOCIATION FOR THORACIC SURGERY, Las Vegas, Apr. 22-24, 1974. William T. Maloney, AATS, 6 Beacon St., Suite 620, Boston 02108, Exec. Sec.

AMERICAN COLLEGE OF ALLERGISTS, Paris, France, Apr. 16-24, 1974. Dr. John D. Gillaspie, 2141 14th St., Boulder, Colo., Sec.-Treas.

■ AMERICAN COLLEGE HEALTH ASSOCIATION, Dallas, Apr. 2-5, 1974. James W. Dilley, 2807 Central, Evanston, Ill. 60201, Exec. Dir.

AMERICAN COLLEGE OF OBSTETRICIANS AND GYNECOLOGISTS, Las Vegas, Apr. 29, 1974. Dr. Michael Newton, One E. Wacker Dr., Chicago 60601, Exec. Dir.

AMERICAN COLLEGE OF PHYSICIANS, New York, Apr. 1-5, 1974. Dr. Edward C. Rosenow, Jr., ACP, 4200 Pine St., Philadelphia 19104, Exec. VPres.

AMERICAN COLLEGE OF RADIOLOGY, New Orleans, Apr. 1-5, 1974. William C. Stronach, 20 N. Wacker Dr., Room 2920, Chicago 60606, Exec. Dir.

INDUSTRIAL MEDICAL ASSOCIATION, Miami Beach, Apr. 28-May 2, 1974. Howard N. Schulz, 150 N. Wacker Dr., Chicago 60606, Exec. Dir.

■ TEXAS DENTAL ASSOCIATION, Dallas, Apr. 28-May 1, 1974. Dr. Joe C. Carrington, Jr., 4920 N. Interregional Hwy., Austin 78751.

■ TEXAS UROLOGICAL SOCIETY, Fort Worth, Apr. 4-6, 1974. Dr. Hugh Lamensdorf, PO Box 11340, Fort Worth 76109, Sec.

MAY

■ TEXAS MEDICAL ASSOCIATION, Houston, May 8-12, 1974. C. Lincoln Williston, 1801 N. Lamar Blvd., Austin 78701, Exec. Sec.

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Remember that Tandearil is not a simple analgesic. It should not be used on patients responding to routine therapy. Before using, please read the prescribing information. It's summarized below.

Tandearil® helps take the heat off

oxyphenbutazone NF

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Tablets of 100 mg.

Important Note: This drug is not a simple analgesic. Do not administer casually. Carefully evaluate patients before starting treatment and keep them under close supervision. Obtain a detailed history, and complete physical and laboratory examination (complete hemogram, urinalysis, etc.) before prescribing and at frequent intervals thereafter. Carefully select patients, avoiding those responsive to routine measures, contraindicated patients or those who cannot be observed frequently. Warn patients not to exceed recommended dosage. Short-term relief of severe symptoms with the smallest possible dosage is the goal of therapy. Dosage should be taken with meals or a full glass of milk. Patients should discontinue the drug and report immediately any sign of: fever, sore throat, oral lesions (symptoms of blood dyscrasia); dyspepsia, epigastric pain, symptoms of anemia, black or tarry stools or other evidence of intestinal ulceration or hemorrhage, skin reactions, significant weight gain or edema. A one-week trial period is adequate. Discontinue in the absence of a favorable response. Restrict treatment periods to one week in patients over sixty.

Indications: Acute gouty arthritis, rheumatoid arthritis, rheumatoid spondylitis.

Contraindications: Children 14 years or less; senile patients; history or symptoms of G.I. inflammation or ulceration including severe, recurrent or persistent dyspepsia; history or presence of drug allergy; blood dyscrasias; renal, hepatic or cardiac dysfunction; hypertension; thyroid disease; systemic edema; stomatitis and salivary gland enlargement due to the drug; polymyalgia rheumatica and temporal arteritis; patients receiving other potent chemotherapeutic agents, or long-term anticoagulant therapy.

Warnings: Age, weight, dosage, duration of therapy, existence of concomitant diseases, and concurrent potent chemotherapy affect incidence of toxic reactions. Carefully instruct and observe the individual patient, especially the aging (forty years and over) who have increased susceptibility to the toxicity of the drug. Use lowest effective dosage. Weigh initially unpredictable benefits against potential risk of severe, even fatal, reactions. The disease condition itself is unaltered by the drug. Use with caution in first trimester of pregnancy and in nursing mothers. Drug may appear in cord blood and breast milk. Serious, even fatal, blood dyscrasias, including aplastic anemia, may occur suddenly despite regular hemograms, and may become manifest days or weeks after cessation of drug. Any significant change in total white count, relative decrease in granulocytes, appearance of immature forms, or fall in hematocrit should signal immediate cessation of therapy and complete hematologic investigation. Unexplained bleeding involving CNS, adrenals, and G.I. tract has occurred. The drug may potentiate action of insulin, sulfonylurea, and sulfonamide-type agents. Carefully observe patients taking these agents. Nontoxic and toxic goiters and myxedema have been reported (the drug reduces iodine uptake by the thyroid). Blurred vision can be a significant toxic symptom worthy of a complete ophthalmological examination. Swelling of ankles or face in patients under sixty may be prevented by reducing dosage. If edema occurs in patients over sixty, discontinue drug.

Precautions: The following should be accomplished at regular intervals: Careful detailed history for disease being treated and detection of earliest signs of adverse reactions; complete physical examination including check of patient's weight; complete weekly (especially for the aging) or an every two week blood check; pertinent laboratory studies. Caution patients about participating in activity requiring alertness and coordination, as driving a car, etc. Cases of leukemia have been reported in patients with a history of short- and long-term therapy. The majority of these patients were over forty. Remember that arthritic-type pains can be the presenting symptom of leukemia.

Adverse Reactions: This is a potent drug; its misuse can lead to serious results. Review detailed information before beginning therapy. Ulcerative esophagitis, acute and reactivated gastric and duodenal ulcer with perforation and hemorrhage, ulceration and perforation of large bowel, occult G.I. bleeding with anemia, gastritis, epigastric pain, hematemesis, dyspepsia, nausea, vomiting and diarrhea, abdominal distention, agranulocytosis, aplastic anemia, hemolytic anemia, anemia due to blood loss including occult G.I. bleeding, thrombocytopenia, pancytopenia, leukemia, leukopenia, bone marrow depression, sodium and chloride retention, water retention and edema, plasma dilution, respiratory alkalosis, metabolic acidosis, fatal and nonfatal hepatitis (cholestasis may or may not be prominent), petechiae, purpura without thrombocytopenia, toxic pruritus, erythema nodosum, erythema multiforme, Stevens-Johnson syndrome, Lyell's syndrome (toxic necrotizing epidermolysis), exfoliative dermatitis, serum sickness, hypersensitivity angiitis (polyarteritis), anaphylactic shock, urticaria, arthralgia, fever, rashes (all allergic reactions require prompt and permanent withdrawal of the drug), proteinuria, hematuria, oliguria, anuria, renal failure with azotemia, glomerulonephritis, acute tubular necrosis, nephrotic syndrome, bilateral renal cortical necrosis, renal stones, ureteral obstruction with uric acid crystals due to uricosuric action of drug, impaired renal function, cardiac decompensation, hypertension, pericarditis, diffuse interstitial myocarditis with muscle necrosis, perivascular granulomata, aggravation of temporal arteritis in patients with polymyalgia rheumatica, optic neuritis, blurred vision, retinal hemorrhage, toxic amblyopia, retinal detachment, hearing loss, hyperglycemia, thyroid hyperplasia, toxic goiter, association of hyperthyroidism and hypothyroidism (causal relationship not established), agitation, confusional states, lethargy; CNS reactions associated with overdosage, including convulsions, euphoria, psychosis, depression, headaches, hallucinations, giddiness, vertigo, coma, hyperventilation, insomnia; ulcerative stomatitis, salivary gland enlargement.

(B)98-146-800-F (10/71)

For complete details, including dosage, please see full prescribing information.

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your choice of sleep medication is wisely based on more than sleep-inducing potential

sleep with relative safety

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No sleep med cation has been as rigorously evaluated in the sleep research laboratory as Dalmane. Insomnia patien given one 30-mg capsule of Dalmane at bedtime, on average: fell asleep within 17 minutes, had fewer nigh time awakenings, spent less time awake after sleep onset, and slept for 7 to 8 hours with no need to repe dosage during the night.

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Dalmane has been shown to be consistently effective even during consecutive nights of administration, with no need to increase dosage.

Dalmane (flurazepam HCl) is a distinctive sleep medication—a nzodiazepine specifically indicated for insomnia. It is not a barurate or methaqualone, nor is it related chemically to any other ailable hypnotic.

When your evaluation of insomnia indicates the need for a sleep edication, consider Dalmane—a single entity nonnarcotic, nonrbiturate agent proved effective and relatively safe for relief of somnia.

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(flurazepam HCl)

When restful sleep is indicated

One 30-mg capsule *h.s.*—usual adult dosage
(15 mg may suffice in some patients)
One 15-mg capsule *h.s.*—initial dosage for elderly or debilitated patients.

Before prescribing Dalmane (flurazepam HCl), please consult Complete Product Information, a summary of which follows:

Indications: Effective in all types of insomnia characterized by difficulty in falling asleep, frequent nocturnal awakenings and/or early morning awakening; in patients with recurring insomnia or poor sleeping habits; and in acute or chronic medical situations requiring restful sleep. Since insomnia is often transient and intermittent, prolonged administration is generally not necessary or recommended

Contraindications: Known hypersensitivity to flurazepam HCl

Warnings: Caution patients about possible combined effects with alcohol and other CNS depressants. Caution against hazardous occupations requiring complete mental alertness (*e.g.*, operating machinery, driving). Use in women who are or may become pregnant only when potential benefits have been weighed against possible hazards. Not recommended for use in persons under 15 years of age. Though physical and psychological dependence have not been reported on recommended doses, use caution in administering to addiction-prone individuals or those who might increase dosage

Precautions: In elderly and debilitated, initial dosage should be limited to 15 mg to preclude oversedation, dizziness and/or ataxia. If combined with other drugs having hypnotic or CNS-depressant effects, consider potential additive effects. Employ usual precautions in patients who are severely depressed, or with latent depression or suicidal tendencies Periodic blood counts and liver and kidney function tests are advised during repeated therapy. Observe usual precautions in presence of impaired renal or hepatic function.

Adverse Reactions: Dizziness, drowsiness, lightheadedness, staggering, ataxia and falling have occurred, particularly in elderly or debilitated patients. Severe sedation, lethargy, disorientation and coma, probably indicative of drug intolerance or overdosage, have been reported. Also reported were headache, heartburn, upset stomach, nausea, vomiting, diarrhea, constipation, GI pain, nervousness, talkativeness, apprehension, irritability, weakness, palpitations, chest pains, body and joint pains and GU complaints. There have also been rare occurrences of sweating, flushes, difficulty in focusing, blurred vision, burning eyes, faintness, hypotension, shortness of breath, pruritus, skin rash, dry mouth, bitter taste, excessive salivation, anorexia, euphoria, depression, slurred speech, confusion, restlessness, hallucinations, and elevated SGOT, SGPT, total and direct bilirubins and alkaline phosphatase. Paradoxical reactions, *e.g.*, excitement, stimulation and hyperactivity, have also been reported in rare instances.

Dosage: Individualize for maximum beneficial effect. *Adults:* 30 mg usual dosage; 15 mg may suffice in some patients. *Elderly or debilitated patients:* 15 mg initially until response is determined.

Supplied: Capsules containing 15 mg or 30 mg flurazepam HCl.

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Opinion & Dialogue

"Prescription drugs – who should determine the maker?"

Dispenser of Medicine

Clifton J. Latiolais
President
American Pharmaceutical Association

Maker of Medicine

C. Joseph Stetler
President
Pharmaceutical Manufacturers Association

"Too many doctors are indifferent to the economic consequences of their decisions." So stated a recent issue of *Medical News Report* (December 4, 1972), an independent weekly newsletter published by former AMA Chief Executive F. J. L. Blasingame, M.D.

Doctor, are you indifferent...?

In discussing an anticipated increase in Blue Shield rates, Dr. Blasingame's newsletter had this to say:

"In general, it can be said, MD's have given the impression they are not particularly concerned with the increase in cost of health care to their patients...

"True, an MD's training is primarily scientific, but in the real world of practice, all of his scientific decisions have a price tag, or an economic impact. The economics of health care beckon the practitioner's attention. Concern for economics of medicine

When the pharmacist recommends that a drug product other than the one ordered be dispensed, the prescriber invariably permits the change when he feels the best interests of the patient will be served.

Shortcomings of Pro-Substitution Argument

The fact remains that it is necessary for the prescriber to know that the change is being contemplated, and to be in a position to consent or demur. Without that opportunity, the unilateral decision of the pharmacist, made in the absence of clinical knowledge of the patient, could expose him to needless risks, and in addition, jeopardize the relationship between the professions of Pharmacy and Medicine. In my view, there is nothing in the pro-substitution argument that offsets these risks.

The Issue of Drug Knowledge

Substitution advocates claim that the primary justification for changing the rules is the desire to better utilize pharmacists' knowledge about drugs. Yet the pharmacist's task to keep current on the entire field of drug therapy, to some degree, puts him at a disadvantage. Most often, a practicing physician will need expert knowledge of no more than 25

Advertisement

ould be an obligation of medical actice...

"Medical societies ought to conct continuing campaigns to point it the substantial savings that could realized thru deductible insurance id protection for catastrophic illss. At the very least, they should, in e patients' interest, question the ctics of any insurance organization at raises health care costs by forcg policyholders to buy insurance ey may not need or want and probly won't ever use.

"Too many doctors are indifferht to the economic consequences of eir decisions. Too many, for exmple, habitually hospitalize patients r the convenience of the MD. It's nsense to deny such habits exist...

"Doctors, thru their medical soeties, have unhesitatingly appealed their patients for support in the ght against government interference ith the private practice of medicine. nd the public in the past has reponded. It's time the American Medal Association and state and local edical societies paid off the debt by ecisive action to hold down the cost f medical care."

ost of Drugs

Insurance rates and hospital harges are only two factors in health care costs. The cost of drugs—both prescription and nonprescription—is another.

And when it comes to drug costs, the nation's pharmacists *are concerned.* Through their national professional society, the American Pharmaceutical Association, pharmacists are advising the public to use nonprescription medication cautiously and conservatively, and to seek the advice of their pharmacist before selecting or purchasing such drugs.

Outdated Laws

The pharmacist also is aware that when it comes to prescription drugs, often he has an even greater opportunity to reduce the cost to the patient—with no sacrifice in the quality of the medication dispensed. But in many states, outdated and antiquated laws prevent the pharmacist from engaging in drug product selection. "Drug product selection" simply means that the pharmacist functions in the patient's interest by consciously choosing, from the multiple brands available, a low-cost quality brand of the specific drug to be dispensed in response to the physician's prescription order.

Much *misinformation* has been purposely spread by those who stand to gain financially by maintaining high drug costs to the public. An endless stream of propaganda has emanated from the drug industry in an effort to persuade the medical profession that these so-called anti-substitution laws should be retained. And as long as these laws are retained, the drug industry will continue its current marketing practices which contribute unnecessarily to high drug costs to patients. These practices also are inviting government agencies to expand their restrictive controls on physicians and pharmacists.

APhA Efforts

As pharmacists, we are concerned about health care costs. We hope that every physician shares our concern on this vital issue, and will give his personal support to the constructive efforts APhA has undertaken in the interest of all patients.

(For a complete discussion of drug product selection, you are invited to request a free copy of the "White Paper on the Pharmacist's Role in Product Selection" from: American Pharmaceutical Association, 2215 Constitution Avenue, N.W., Washington, D.C. 20037.)

r 30 drugs that he selects to treat the najority of conditions encountered in is practice. Moreover, the physiian's choice of a specific brand is ased on his knowledge of the paent's medical history and current ondition, and his experiences with ne particular manufacturer's roduct.

Some substitution proponents ave argued that the dispensing of a rescription is a simple two-party ransaction between the pharmacist nd the patient, and that a substitutng pharmacist may avoid even a echnical breach of contract by simply otifying the patient that he is making he substitution. I would judge that ew courts would be sympathetic oward a pharmacist who substituted vithout physician approval and who ndertook a legal defense that seeks o make the patient responsible for he pharmacist's actions.

Reduced Prescription Prices?

Substitution advocates are suggesting to the consumer, and particularly the consumer activist, that reduced prescription prices could follow legalization of substitution. We have seen absolutely no evidence to justify this claim. To the contrary, experience in Alberta, Canada, where substitution is authorized, suggests the opposite.

Many pharmacists understandably are concerned about the cost of maintaining multiple stocks of similar products. While there is no doubt that inventory costs rise when additional brands are stocked, it would be interesting to know how much they rise, and how many pharmacists actually stock *all* brands—of, say, ampicillin or tetracycline—or how long they keep "slow moving" products on their shelves before they are returned for credit. To ask that the industry eliminate multiple sources is to ask competitors to stop competing.

Drug Substitution—A License for the Unethical

Anti-substitution repeal would favor "corner cutting" pharmacists and manufacturers. For them, free substitution would be not a right, but a license. As an aftermath, it is quite likely that the confidence of both physicians and patients in the profession of Pharmacy would be eroded, as revelations about the unconscionable behavior of an undisciplined few were magnified in the press or in professional circles.

Summary

In short, what the American Pharmaceutical Association advocates as a broad-spectrum panacea looks to us to be not only a minority view (advocacy of substitution is by no means a uniform policy in Pharmacy), but also an extraordinarily costly and ineffective remedy, whose side effects are odious. We believe (1) that an impressive majority of pharmacists prefer to work with Medicine and with industry, for the consumer, and for the general good, (2) that they seek the privilege to substitute when the patient might gain and when the patient's doctor agrees, and (3) that they seek to work for the resolution of genuine grievances openly and professionally.

(For amplification of PMA views, please write for our booklet, "The Medications Physicians Prescribe: Who Shall Determine the Source?" It is available from: Pharmaceutical Manufacturers Association, 1155 Fifteenth Street, N.W., Washington, D.C. 20005.)

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1155 Fifteenth Street, N.W.
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ROCHE announces new BACTRIM™

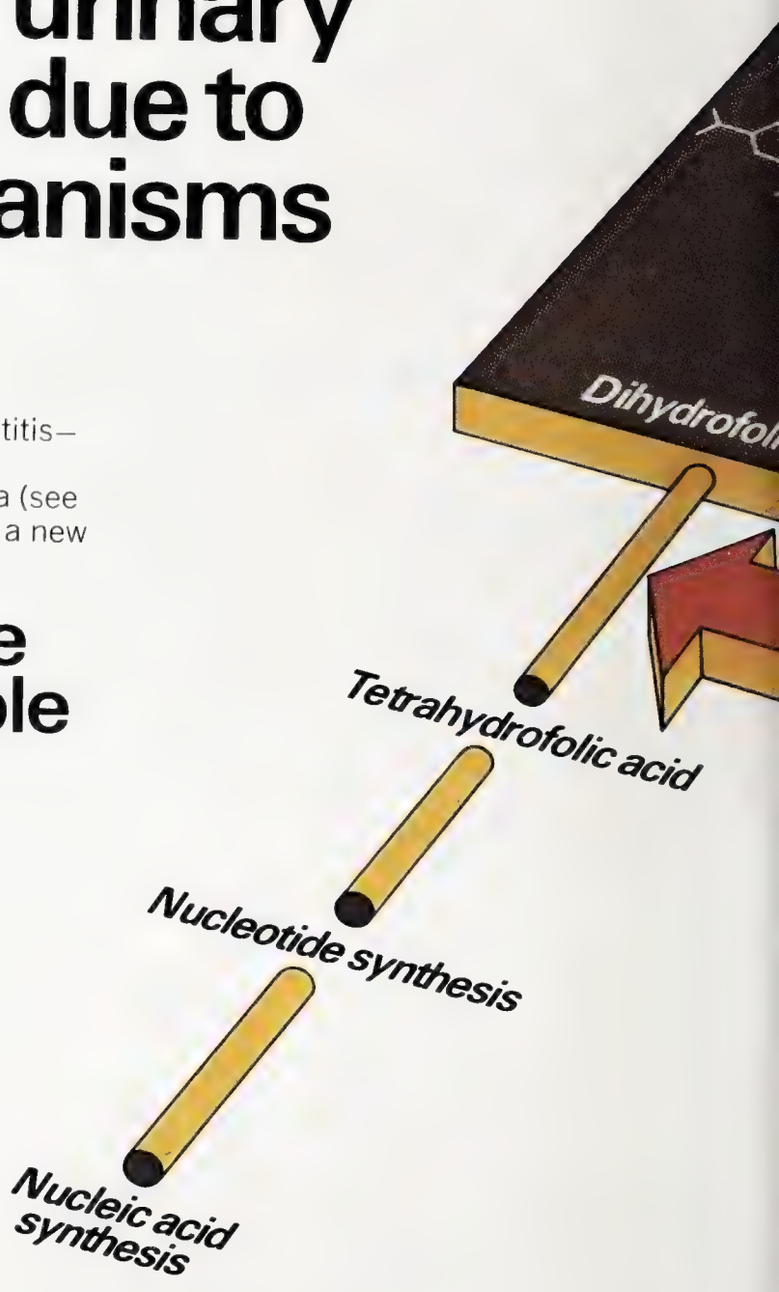
Each tablet contains 80 mg trimethoprim and 400 mg sulfamethoxazole.

a new type of antibacterial for a two-pronged attack against chronic urinary tract infections due to susceptible organisms

Bactrim is highly effective in the treatment of these infections—primarily pyelonephritis, pyelitis and cystitis—when due to susceptible organisms. This efficacy is related to the unique mode of action against bacteria (see illustration), an action that, in effect, makes Bactrim a new type of antibacterial.

Bactrim interrupts the life cycle of susceptible bacteria

Unique mode of action interrupts the life cycle at two important points, thereby impeding the production of nucleic acids and proteins essential to these bacteria. These consecutive interruptions occur because sulfamethoxazole and trimethoprim resemble naturally existing substrates. By competitive replacement of these substrates, they inhibit further synthesis.



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Each tablet contains 80 mg trimethoprim and 400 mg sulfamethoxazole.

for chronic urinary tract infections

Before prescribing, please see complete product information on last page of advertisement.

Excellent clinical response in chronic urinary tract infections even with obstructive complications

A multiclinic, double-blind study* of response to a ten-day course of therapy in 471† patients with chronic urinary tract infections demonstrated the superiority of Bactrim. On the 10th day after initiation of therapy, 91.7% (of 168 patients) showed significant bacteriological response to Bactrim, compared with 81.2% (of 144 patients) to trimethoprim and 64.5% (of 155 patients) to sulfamethoxazole. More than half of these patients had obstructive complications.

Excellent response maintained

Bactrim proved equally impressive in maintaining this bacteriological response. In the above study, after a ten-day course of therapy with Bactrim, 68.4% of patients with chronic urinary tract infections *maintained* response for up to 42 consecutive days, compared with 59.7% with trimethoprim and 44.4% with sulfamethoxazole. These results are particularly noteworthy considering the number of patients with obstructive complications—cases regarded as being notoriously difficult to treat.

Prescribing considerations

Clinical Limitations: Currently, the increasing frequency of resistant organisms is a limitation of the usefulness of all antibacterial agents, especially in the treatment of chronic and recurrent urinary tract infections. Not recommended for children under twelve.

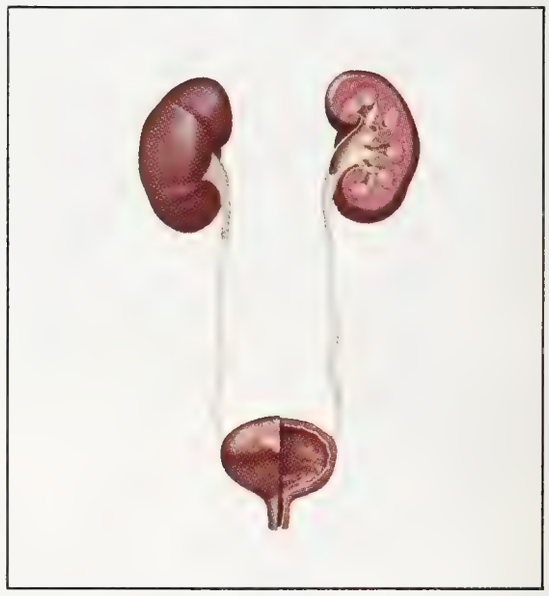
Contraindications: Hypersensitivity to trimethoprim or sulfonamides. Pregnancy and during the nursing period.

Warnings and Precautions: Both sulfamethoxazole and trimethoprim have been reported to interfere with hematopoiesis. Complete blood counts should be done frequently. If a significant reduction in the count of any formed blood element is noted, Bactrim should be discontinued. Bactrim should be given with caution to patients with impaired renal or hepatic function, possible folate deficiency, severe allergy or bronchial asthma. Maintain adequate fluid intake. Urinalyses with careful microscopic examination and renal function tests should be performed during therapy, particularly for those patients with impaired renal function.

Adverse Effects: Among the most common side effects are nausea, vomiting, rash, leukopenia and elevations in SGOT and creatinine.

Usual adult dosage: two tablets every twelve hours for 10 to 14 days; no loading dose required.

*Data on file, Hoffmann-La Roche Inc., Nutley, N.J. 07110
†4 patients not available for evaluation at day 10.



new **BACTRIM**™

Each tablet contains 80 mg trimethoprim and 400 mg sulfamethoxazole.

for chronic urinary tract infections

ROCHE

Roche Laboratories
Division of Hoffmann-La Roche Inc
Nutley, N.J. 07110

Complete Product Information:

Description: Bactrim is a synthetic antibacterial combination product, available in scored light-green tablets, each containing 80 mg trimethoprim and 400 mg sulfamethoxazole.

Trimethoprim is 2,4-diamino-5-(3,4,5-trimethoxybenzyl) pyrimidine. It is a white to light-yellow, odorless, bitter compound with a molecular weight of 290.3.

Sulfamethoxazole is N^1-(5-methyl-3-isoxazolyl) sulfanilamide. It is an almost white in color, odorless, tasteless compound with a molecular weight of 253.28.

Actions: *Microbiology:* Sulfamethoxazole inhibits bacterial synthesis of dihydrofolic acid by competing with *para*-aminobenzoic acid. Trimethoprim blocks the production of tetrahydrofolic acid from dihydrofolic acid by binding to and reversibly inhibiting the required enzyme, dihydrofolate reductase. Thus, Bactrim blocks two consecutive steps in the biosynthesis of nucleic acids and proteins essential to many bacteria.

In vitro studies have shown that bacterial resistance develops more slowly with Bactrim than with trimethoprim or sulfamethoxazole alone.

In vitro serial dilution tests have shown that the spectrum of antibacterial activity of Bactrim includes the common urinary tract pathogens with the exception of *Pseudomonas aeruginosa.* The following organisms are usually susceptible: *Escherichia coli, Klebsiella-Enterobacter, Proteus mirabilis* and indole-positive proteus species.

Representative Minimum Inhibitory Concentration Values for Bactrim-Susceptible Organisms
(MIC—mcg/ml)

Bacteria	Trimethoprim alone	Sulfamethoxazole alone	TMP/SMX (1:20) TMP	TMP/SMX (1:20) SMX
Escherichia coli	0.05—1.5	1.0 —245	0.05—0.5	0.95— 9.5
Proteus spp. indole positive	0.5 —5.0	7.35 —300	0.05—1.5	0.95—28.5
Proteus mirabilis	0.5 —1.5	7.35 — 30	0.05—0.15	0.95— 2.85
Klebsiella-Enterobacter	0.15—5.0	0.735—245	0.05—1.5	0.95—28.5

Human Pharmacology: Bactrim is rapidly absorbed following oral administration. The blood levels of trimethoprim and sulfamethoxazole are similar to those achieved when each component is given alone. Peak blood levels for the individual components occur one to four hours after oral administration. The half-lives of sulfamethoxazole and trimethoprim, 10 and 16 hours respectively, are relatively the same regardless of whether these compounds are administered as individual components or as Bactrim. Detectable amounts of trimethoprim and sulfamethoxazole are present in the blood 24 hours after drug administration. Free sulfamethoxazole and trimethoprim blood levels are proportionately dose-dependent. On repeated administration, the steady-state ratio of trimethoprim to sulfamethoxazole levels in the blood is about 1:20.

Sulfamethoxazole exists in the blood as free, conjugated and protein-bound forms; trimethoprim is present as free, protein-bound and metabolized forms. The free forms are considered to be the therapeutically active forms. Approximately 44 percent of trimethoprim and 70 percent of sulfamethoxazole are protein-bound in the blood. The presence of 10 mg percent sulfamethoxazole in plasma decreases the protein binding of trimethoprim to an insignificant degree; trimethoprim does not influence the protein binding of sulfamethoxazole.

Excretion of Bactrim is chiefly by the kidneys through both glomerular filtration and tubular secretion. Urine concentrations of both sulfamethoxazole and trimethoprim are considerably higher than are the concentrations in the blood. When administered together as in Bactrim, neither sulfamethoxazole nor trimethoprim affects the urinary excretion pattern of the other.

Indications: Chronic urinary tract infections (primarily pyelonephritis, pyelitis and cystitis) due to susceptible organisms (usually *E. coli, Klebsiella-Enterobacter, Proteus mirabilis,* and, less frequently, indole-positive proteus species).

Important note: **Currently, the increasing frequency of resistant organisms is a limitation of the usefulness of all antibacterial agents, especially in the treatment of chronic and recurrent urinary tract infections.**

Contraindications: Hypersensitivity to trimethoprim or sulfonamides. Pregnancy and during the nursing period (see Reproduction Studies).

Warnings: Deaths associated with the administration of sulfonamides have been reported from hypersensitivity reactions, agranulocytosis, aplastic anemia and other blood dyscrasias. Experience with trimethoprim alone is much more limited, but it has been reported to interfere with hematopoiesis in occasional patients. In elderly patients concurrently receiving certain diuretics, primarily thiazides, an increased incidence of thrombopenia with purpura has been reported.

The presence of clinical signs such as sore throat, fever, pallor, purpura or jaundice may be early indications of serious blood disorders. Complete blood counts should be done frequently in patients receiving Bactrim. If a significant reduction in the count of any formed blood element is noted, Bactrim should be discontinued.

At the present time, there is insufficient clinical information on the use of Bactrim in infants and children under 12 years of age to recommend its use.

Precautions: Bactrim should be given with caution to patients with impaired renal or hepatic function, to those with possible folate deficiency and to those with severe allergy or bronchial asthma. In glucose-6-phosphate dehydrogenase-deficient individuals, hemolysis may occur. This reaction is frequently dose-related. Adequate fluid intake must be maintained in order to prevent crystalluria and stone formation. Urinalyses with careful microscopic examination and renal function tests should be performed during therapy, particularly for those patients with impaired renal function.

Adverse Reactions: For completeness, all major reactions to sulfonamides and to trimethoprim are included below, even though they may not have been reported with Bactrim.

Blood dyscrasias: Agranulocytosis, aplastic anemia, megaloblastic anemia, thrombopenia, leukopenia, hemolytic anemia, purpura, hypoprothrombinemia and methemoglobinemia.

Allergic reactions: Erythema multiforme, Stevens-Johnson syndrome, generalized skin eruptions, epidermal necrolysis, urticaria, serum sickness, pruritus, exfoliative dermatitis, anaphylactoid reactions, periorbital edema, conjunctival and scleral injection, photosensitization, arthralgia and allergic myocarditis.

Gastrointestinal reactions: Glossitis, stomatitis, nausea, emesis, abdominal pains, hepatitis, diarrhea and pancreatitis.

C.N.S. reactions: Headache, peripheral neuritis, mental depression, convulsions, ataxia, hallucinations, tinnitus, vertigo, insomnia, apathy, fatigue, muscle weakness and nervousness.

Miscellaneous reactions: Drug fever, chills, and toxic nephrosis with oliguria and anuria. Periarteritis nodosa and L. E. phenomenon have occurred.

The sulfonamides bear certain chemical similarities to some goitrogens, diuretics (acetazolamide and the thiazides) and oral hypoglycemic agents. Goiter production, diuresis and hypoglycemia have occurred rarely in patients receiving sulfonamides. Cross-sensitivity may exist with these agents. Rats appear to be especially susceptible to the goitrogenic effects of sulfonamides, and long-term administration has produced thyroid malignancies in the species.

Dosage and Administration: Not recommended for use in children under 12 years of age.

The usual adult dosage is two tablets every 12 hours for 10 to 14 days.

For patients with renal impairment:

Creatinine Clearance (ml/min)	Recommended Dosage Regimen
Above 30	Usual standard regimen
15-30	2 tablets every 24 hours
Below 15	Use not recommended

How Supplied: Tablets, containing 80 mg trimethoprim and 400 mg sulfamethoxazole—bottles of 100 and 500; Tel-E-Dose® packages of 1000; Prescription Paks of 40, available singly and in trays of 10. Imprint on tablets: ROCHE 50.

Reproduction Studies: In rats, doses of 533 mg/kg sulfamethoxazole or 200 mg/kg trimethoprim produced teratological effects manifested mainly as cleft palates. The highest dose which did not cause cleft palates in rats was 512 mg/kg sulfamethoxazole or 192 mg/kg trimethoprim when administered separately. In two studies in rats, no teratology was observed when 512 mg/kg of sulfamethoxazole was used in combination with 128 mg/kg of trimethoprim. However, in one study, cleft palates were observed in one litter out of 9 when 355 mg/kg of sulfamethoxazole was used in combination with 88 mg/kg of trimethoprim.

In rabbits, trimethoprim administered by intubation from days 8 to 16 of pregnancy at dosages up to 500 mg/kg resulted in higher incidences of dead and resorbed fetuses, particularly at 500 mg/kg. However, there were no significant drug-related teratological effects.

BACTRIM™

Each tablet contains 80 mg trimethoprim and 400 mg sulfamethoxazole.

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The *author's names* and degrees should follow the title, and their mailing addresses should be listed at the end of the article.

The *text* should be narrative with complete sentences, *few abbreviations*, and logical subheading. For *spelling and usage* the editors follow "Dorland's Illustrated Medical Dictionary," 24th edition, and "Webster's Third New International Dictionary, Unabridged." *Quotations* must give credit to both author and source. A concise *introductory summary* is required.

Reference lists should contain in this order (1) author's last name, initials, (2) title of article or book, (3) name of journal, (4) volume and inclusive page numbers, written 33:156-160, (5) year. For books, the title should be followed by place of publication, name of publisher, and year.

Illustrations should be black and white drawings or positive photographs, with neat, uniform, fairly large lettering. A label pasted to the back of each illustration should indicate its number, top, author's name, and title of article in brief. *Legends* should be in complete sentences, numbered, and typed on a separate sheet. *Color illustrations* are authorized if they are of special value.

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Texas Medicine is published monthly by the Texas Medical Association.

Contributions, previously unpublished, are welcomed for review. News and other items should be sent to the Editorial Offices by the 5th of the month preceding the month of publication. All contributions are sent at the owner's risk.

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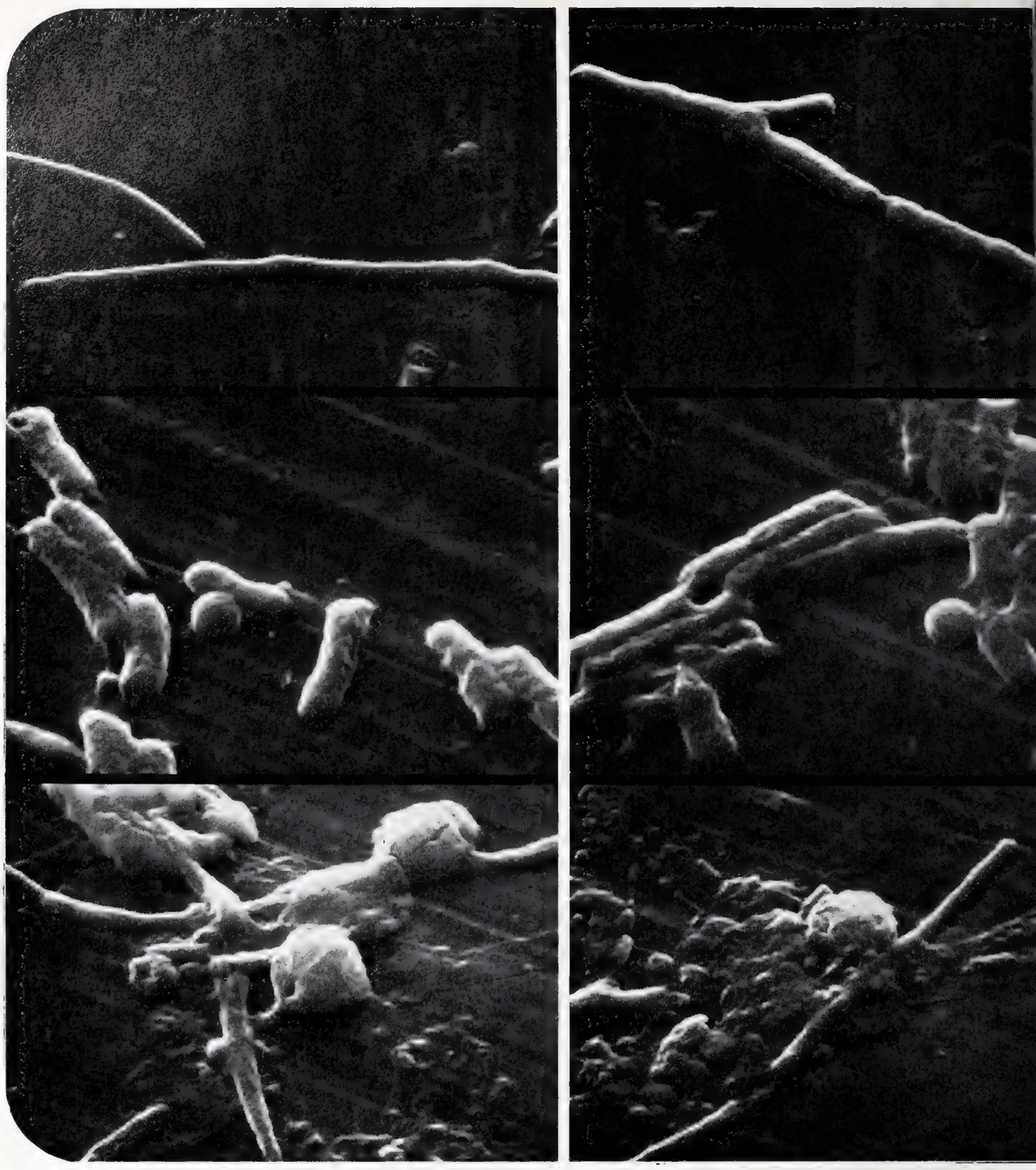
0.1 M.I.C. for three hours
Similar elongations occur regardless of antibacterial used.

1.0 M.I.C. for three hours
Similar midcell defects seen with increased antibacterial concentrations.

10 M.I.C. for three hours
Similar spheroplast-like forms appear with high concentrations of the antibacterials.



E. coli + sulfamethoxazole | **E. coli + tetracycline**

The Scanning Electron Microscope (SEM) reveals the effect

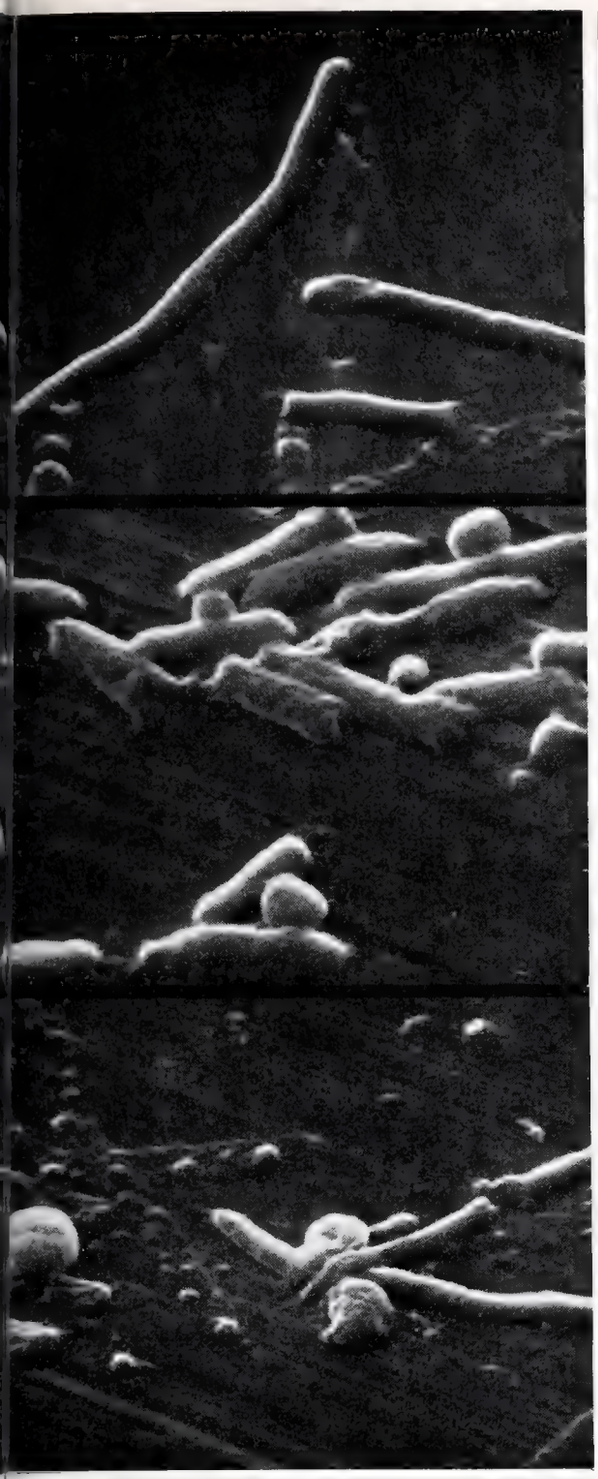
The *in vitro* experiment. These SEM photomicrographs were taken as part of a study exploring the effects of various antibacterials with different modes of action on the surface morphology of bacteria. The scanning electron microscope was used because of its ability to show three-dimensional views of organisms, enabling better definition and appreciation of surface morphology.

For this portion of the experiment, *E. coli* were exposed to the following agents: sulfamethoxazole, a chemical drug which acts by interference with para-aminobenzoic acid utilization; tetracycline, which interferes with intracellular protein synthesis; and cephalothin and ampicillin, which are cell-wall-active drugs.

Strains of *E. coli,* each susceptible to the respective antibacterials, were exposed for 15, 30, 60, 120 and 180 minutes and 18 hours to several concentrations of each agent.

Following the 180-minute or three-hour exposures to the antibacterials at 0.1 M.I.C., 1.0 M.I.C. and 10 M.I.C., photoscans of the *E. coli* were taken. As shown above, regardless of the antibacterial agent used or its mode of action, the changes in surface morphology were remarkably similar... elongation at low drug concentrations, midcell defects at higher

hree-Dimensional World of SEM



E. coli + cephalothin

E. coli + ampicillin

of certain antibacterials on bacterial surface morphology

concentrations and ultimate progression to spheroplast-like forms.[1]

The interpretation. "At present, the significance of these observations in clinical infection must be considered with caution, but it is hoped that these data will stimulate a reevaluation of present concepts of the nature and role of morphological variants of bacteria exposed to a variety of antibacterial factors."[2]

It should be noted that this information represents only *in vitro* research. No clinical significance can be drawn from this study concerning the effectiveness of any of the agents discussed, as it is not possible to extrapolate *in vitro* data to humans. This information is presented to demonstrate the continuing research activities in the area of antibacterials, particularly modes of action and surface morphology.

[1]Data on file, Hoffmann-La Roche Inc., Nutley, N.J.

[2]*Antimicrob. Agents Chemother.*, *1*:164, 1972.

See next two pages for product information.

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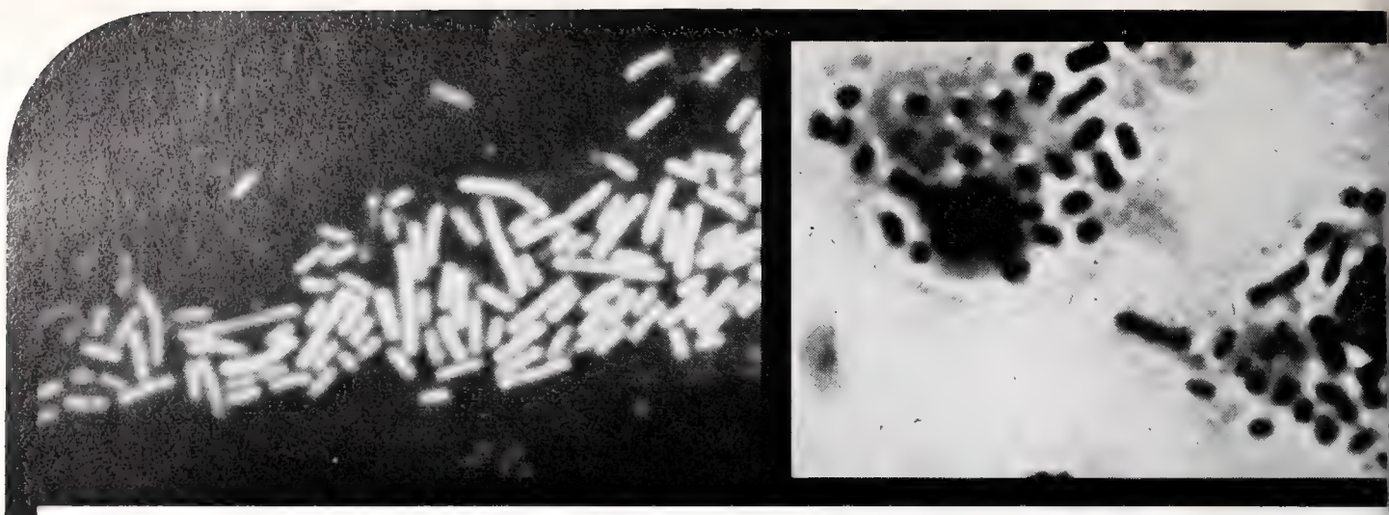
Observations fron



E. coli—Fluorescent stain

Klebsiella sp.—Stain to define capsular envelope

■ Effective control of primary susceptible bacterial offenders

Gantanol® (sulfamethoxazole) is effective against susceptible strains of *E. coli,* the most commo cause of urinary tract infections. It is also highly effective against other susceptible gram-negativ and gram-positive organisms, usually *Klebsiella-Aerobacter, Staph. aureus* and *Proteus mirabili*

■ Prompt antibacterial blood and urine levels—in from 2 to 3 hours

Antibacterial levels of Gantanol usually appear in blood and urine in from 2 to 3 hours after the initial 2-Gm adult dose. This rapid initiation of effective antibacterial activity enables prompt trea ment of certain nonobstructed urinary tract infections and may also help avert possible sequelae.

■ Around-the-clock coverage for 14 days

Mounting evidence in current medical literature suggests a minimum of 14 days' continuous therapy for certain urinary tract infections.* Following the initial 2-Gm adult dosage of Gantan each 1-Gm dose provides up to 12 hours of antibacterial activity during the treatment period. When urinary tract infection is more severe, *t.i.d.* (q. 8 h.) dosage schedule may be required. Both regimens provide around-the-clock therapy, important because normal urinary retentio during sleep tends to favor bacterial proliferation. It is also convenient for patients not to have to take middle-of-the-night medication.

■ Also effective in certain nonobstructed chronic and recurrent urinary tract infection

Nonobstructed urinary tract infections, such as cystitis or pyelonephritis—chronic and/or recur- rent—develop more commonly in the elderly and debilitated, and response to Gantanol is often highly satisfactory.

Before prescribing, please consult complete product information, a summary of which follows:

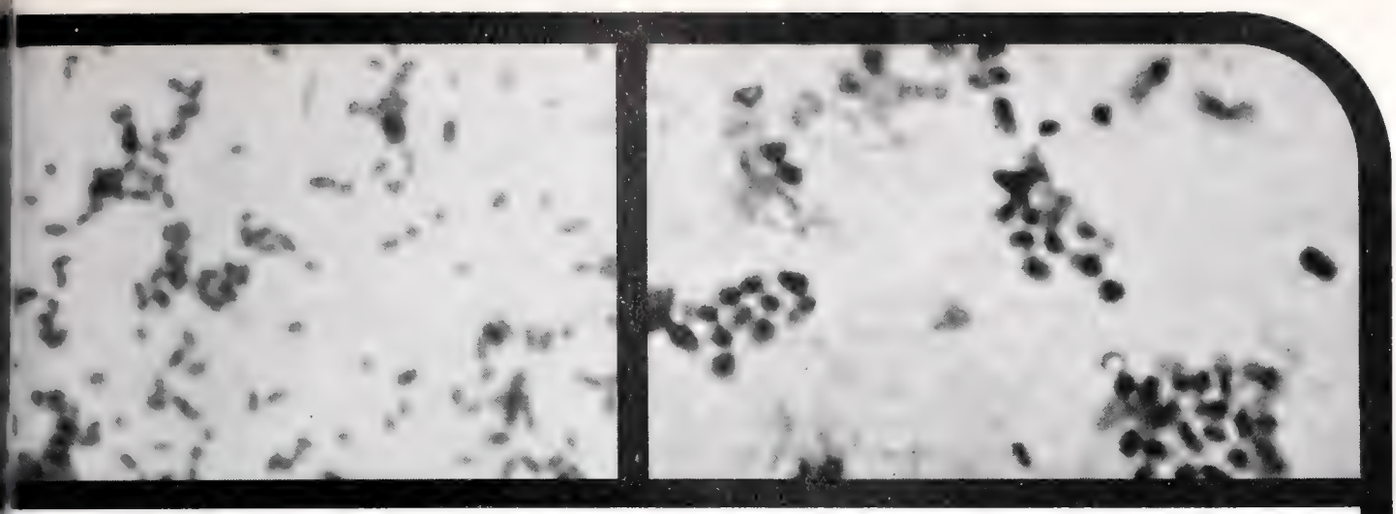
Indications: Acute, recurrent or chronic nonobstructed urinary tract infections (primarily pyelonephritis, pyelitis and cystitis) due to susceptible organisms. **Note: Carefully coordinate *in vitro* sulfonamide sensitivity tests with bacteriologic and clinical response; add aminobenzoic acid to follow-up culture media. The increasing frequency of resistant organisms limits the usefulness of antibacterials including sulfonamides, especially in chronic or recurrent urinary tract infections.** Measure sulfonamide blood levels as variations may occur; 20 mg/100 ml should be maximum total level.

Contraindications: Sulfonamide hypersensitivity; pregnancy at term and during nursing period; infants less than two months of age.

Warnings: Safety during pregnancy has not been established. Sulfonamides should not be used for group A beta-hemolytic streptococcal infections and will not eradica or prevent sequelae (rheumatic fever, glomerulonephriti of such infections. Deaths from hypersensitivity reaction agranulocytosis, aplastic anemia and other blood dyscrasi have been reported and early clinical signs (sore throa fever, pallor, purpura or jaundice) may indicate serio blood disorders. Frequent CBC and urinalysis with micr scopic examination are recommended during sulfonamid therapy. Insufficient data on children under six with chron renal disease.

Precautions: Use cautiously in patients with impair renal or hepatic function, severe allergy, bronchial asthma; glucose-6-phosphate dehydrogenase-deficient individuals whom dose-related hemolysis may occur. Maintain adequa fluid intake to prevent crystalluria and stone formatio

Adverse Reactions: *Blood dyscrasias* (agranulocytosi aplastic anemia, thrombocytopenia, leukopenia, hemolyt anemia, purpura, hypoprothrombinemia and methemogl



Enterobacter sp.—Gram stain showing characteristic gram-negative rod

Proteus mirabilis—Flagella stain

Your option: tablets or suspension

Gantanol Tablets or the pleasant-tasting, cherry-flavored Suspension can provide dependable antibacterial activity to control susceptible nonobstructed cystitis and pyelonephritis. Symptomatic improvement usually may be expected to begin within 24 to 48 hours. Usual precautions with sulfonamide therapy should be observed, including adequate fluid intake. Gantanol is generally well tolerated, with relative freedom from complications; the most common side effects are nausea, vomiting and diarrhea. Frequent c.b.c.'s and urinalyses with microscopic examination are recommended during therapy.

Data on file, Hoffmann-La Roche Inc., Nutley, N.J.

In nonobstructed cystitis due to susceptible organisms

Gantanol® B.I.D. (sulfamethoxazole)

Basic therapy

linemia); *allergic reactions* (erythema multiforme, skin eruptions, epidermal necrolysis, urticaria, serum sickness, pruritus, exfoliative dermatitis, anaphylactoid reactions, periorbital edema, conjunctival and scleral injection, photosensitization, arthralgia and allergic myocarditis); *gastrointestinal reactions* (nausea, emesis, abdominal pains, hepatitis, diarrhea, anorexia, pancreatitis and stomatitis); *CNS reactions* (headache, peripheral neuritis, mental depression, convulsions, ataxia, hallucinations, tinnitus, vertigo and insomnia); *miscellaneous reactions* (drug fever, chills, toxic nephrosis with oliguria and anuria, periarteritis nodosa and L. E. phenomenon). Due to certain chemical similarities with some goitrogens, diuretics (acetazolamide, thiazides) and oral hypoglycemic agents, sulfonamides have caused rare instances of goiter production, diuresis and hypoglycemia as well as thyroid malignancies in rats following long-term administration. Cross-sensitivity with these agents may exist.

Dosage: Systemic sulfonamides are contraindicated in infants under 2 months of age (except adjunctively with pyrimethamine in congenital toxoplasmosis).

Usual adult dosage: 2 Gm (4 tabs or teasp.) initially, then 1 Gm *b.i.d* or *t.i.d.* depending on severity of infection.

Usual child's dosage: 0.5 Gm (1 tab or teasp.)/20 lbs of body weight initially, then 0.25 Gm/20 lbs *b.i.d.* Maximum dose should not exceed 75 mg/kg/24 hrs.

Supplied: Tablets, 0.5 Gm sulfamethoxazole; Suspension, 0.5 Gm sulfamethoxazole/teaspoonful.

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Rondomycin®
(methacycline HCl)

CONTRAINDICATIONS: Hypersensitivity to any of the tetracyclines.
WARNINGS: Tetracycline usage during tooth development (last half of pregnancy to eight years) may cause permanent tooth discoloration (yellow-gray-brown), which is more common during long-term use but has occurred after repeated short-term courses. Enamel hypoplasia has also been reported. **Tetracyclines should not be used in this age group unless other drugs are not likely to be effective or are contraindicated.**
Usage in pregnancy. (See above **WARNINGS** about use during tooth development.)
Animal studies indicate that tetracyclines cross the placenta and can be toxic to the developing fetus (often related to retardation of skeletal development). Embryotoxicity has also been noted in animals treated early in pregnancy.
Usage in newborns, infants, and children. (See above **WARNINGS** about use during tooth development.)
All tetracyclines form a stable calcium complex in any bone-forming tissue. A decrease in fibula growth rate observed in prematures given oral tetracycline 25 mg/kg every 6 hours was reversible when drug was discontinued.
Tetracyclines are present in milk of lactating women taking tetracyclines.
To avoid excess systemic accumulation and liver toxicity in patients with impaired renal function, reduce usual total dosage and, if therapy is prolonged, consider serum level determinations of drug. The anti-anabolic action of tetracyclines may increase BUN. While not a problem in normal renal function, in patients with significantly impaired function, higher tetracycline serum levels may lead to azotemia, hyperphosphatemia, and acidosis.
Photosensitivity manifested by exaggerated sunburn reaction has occurred with tetracyclines. Patients apt to be exposed to direct sunlight or ultraviolet light should be so advised, and treatment should be discontinued at first evidence of skin erythema.
PRECAUTIONS: If superinfection occurs due to overgrowth of nonsusceptible organisms, including fungi, discontinue antibiotic and start appropriate therapy.
In venereal disease, when coexistent syphilis is suspected, perform darkfield examination before therapy, and serologically test for syphilis monthly for at least four months.
Tetracyclines have been shown to depress plasma prothrombin activity; patients on anticoagulant therapy may require downward adjustment of their anticoagulant dosage.
In long-term therapy, perform periodic organ system evaluations (including blood, renal, hepatic).
Treat all Group A beta-hemolytic streptococcal infections for at least 10 days.
Since bacteriostatic drugs may interfere with the bactericidal action of penicillin, avoid giving tetracycline with penicillin
ADVERSE REACTIONS: Gastrointestinal (oral and parenteral forms): anorexia, nausea, vomiting, diarrhea, glossitis, dysphagia, enterocolitis, inflammatory lesions (with monilial overgrowth) in the anogenital region.
Skin: maculopapular and erythematous rashes; exfoliative dermatitis (uncommon). Photosensitivity is discussed above (See **WARNINGS**).
Renal toxicity: rise in BUN, apparently dose related (See **WARNINGS**).
Hypersensitivity: urticaria, angioneurotic edema, anaphylaxis, anaphylactoid purpura, pericarditis, exacerbation of systemic lupus erythematosus.
Bulging fontanels, reported in young infants after full therapeutic dosage, have disappeared rapidly when drug was discontinued
Blood: hemolytic anemia, thrombocytopenia, neutropenia, eosinophilia.
Over prolonged periods, tetracyclines have been reported to produce brown-black microscopic discoloration of thyroid glands; no abnormalities of thyroid function studies are known to occur.
USUAL DOSAGE: Adults—600 mg daily, divided into two or four equally spaced doses. More severe infections: an initial dose of 300 mg followed by 150 mg every six hours or 300 mg every 12 hours. Gonorrhea: In uncomplicated gonorrhea, when penicillin is contraindicated, 'Rondomycin' (methacycline HCl) may be used for treating both males and females in the following clinical dosage schedule: 900 mg initially, followed by 300 mg q.i.d. for a total of 5.4 grams.
For treatment of syphilis, when penicillin is contraindicated, a total of 18 to 24 grams of 'Rondomycin' (methacycline HCl) in equally divided doses over a period of 10-15 days should be given. Close follow-up, including laboratory tests, is recommended.
Eaton Agent pneumonia: 900 mg daily for six days.
Children—3 to 6 mg/lb/day divided into two to four equally spaced doses.
Therapy should be continued for at least 24-48 hours after symptoms and fever have subsided
Concomitant therapy: Antacids containing aluminum, calcium or magnesium impair absorption and are contraindicated. Food and some dairy products also interfere. Give drug one hour before or two hours after meals. Pediatric oral dosage forms should not be given with milk formulas and should be given at least one hour prior to feeding.
In patients with renal impairment (see **WARNINGS**), total dosage should be decreased by reducing recommended individual doses or by extending time intervals between doses
In streptococcal infections, a therapeutic dose should be given for at least 10 days.
SUPPLIED: 'Rondomycin' (methacycline HCl): 150 mg and 300 mg capsules; syrup containing 75 mg/5 cc methacycline HCl.

Before prescribing, consult package circular or latest PDR information.

Rev. 6/73

WALLACE PHARMACEUTICALS
CRANBURY, NEW JERSEY 08512

When the focus is on bronchitis due to susceptible strains of *H. influenzae* and pneumococci*

Rondomycin® 300 mg. Capsules

[methacycline HCl]

Delivers from the very first dose:

tudies show that after the first dose serum levels rapidly rise above minimum *in vitro* inhibitory concentrations

*Since many strains are known to be resistant, routine sensitivity testing is recommended.

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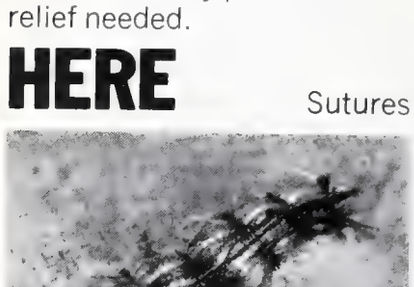

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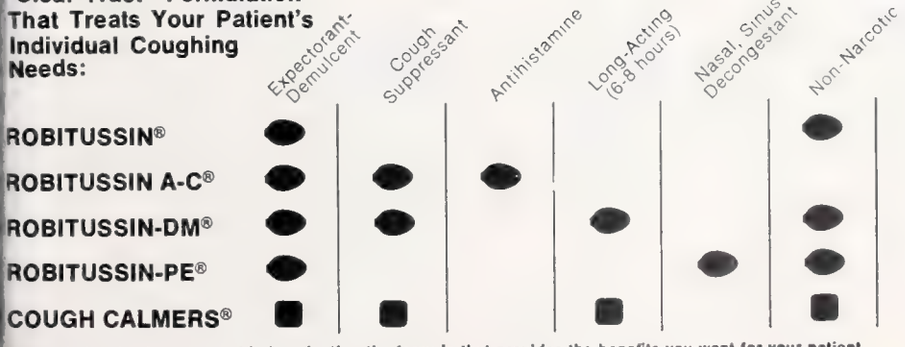

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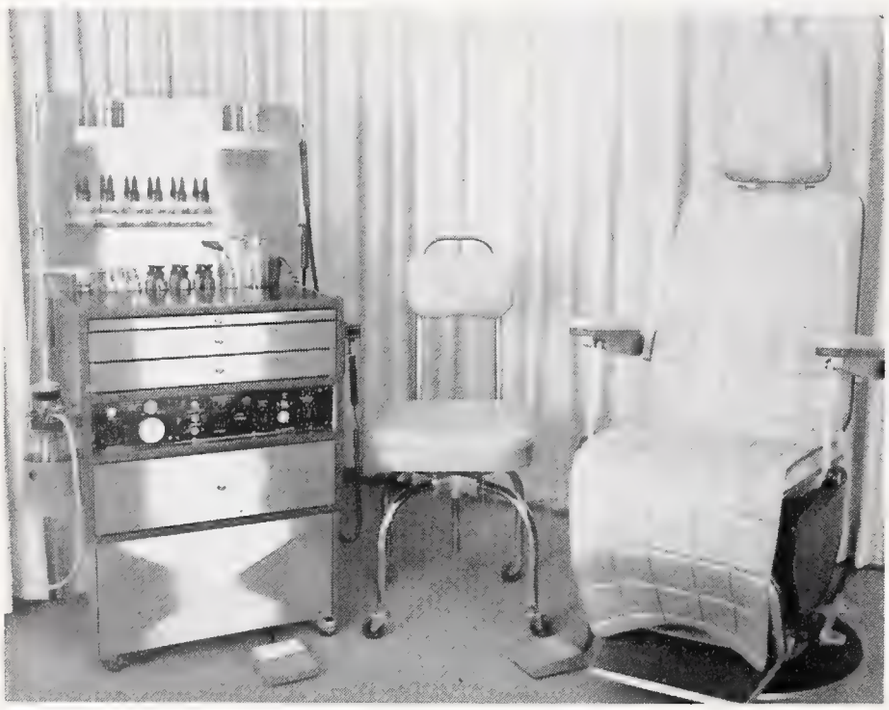

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CONTINUING EDUCATION COURSES

OCTOBER

Diabetes: The 11th Research Symposium of the American Diabetes Association will be held Oct. 26-27 at the Sheraton-Dallas Hotel, Dallas. The forum, titled "Metabolic Derangements in Diabetes: Ketosis and Other Problems," will have ten major presentations, most of them emphasizing aspects of diabetic coma or ketosis. Also highlighted will be a report by British scientist Dr. Derek H. Williamson on brain metabolism in diabetic ketosis. Contact: Dr. Daniel W. Foster, professor of internal medicine, The University of Texas Health Science Center, 5323 Harry Hines Blvd., Dallas 75235.

Hypertension: The American Heart Association, Texas Affiliate, will present a seminar on hypertension Oct. 26-27, at Inn of Six Flags, Arlington, Texas. Sessions will include topics from the natural history of hypertension to new approaches to therapy. The program is cosponsored by The University of Texas Southwestern Medical School in Dallas and the Arlington Branch of Tarrant County Medical Society. Registration fee: $25. Contact: American Heart Association, Texas Affiliate, Region 7, 3925 W. Freeway, Fort Worth 76107.

Rheumatology: "Rheumatology for the Family Physician," a course covering common rheumatic problems with emphasis upon diagnosis, interpretation of laboratory results, and both the principles as well as the specifics of management, will be presented Oct. 25-Dec. 20 by The University of Texas Medical School at San Antonio. The course is acceptable for 16 hours by the AAFP and Category 1, AMA Physician's Recognition Award. Registration fee: $50. Contact: Dr. Paul Cutler, Associate Dean for Clinical Affairs, 7703 Floyd Curl Dr., San Antonio 78284.

NOVEMBER

Hypertension: A brief review of new developments in the diagnosis and management of the hypertension patient will be presented by The University of Texas Health Science Center at Houston Nov. 19 in the Jesse H. Jones Library Auditorium. This program is designed to help the physician apply and extend new information concerning antihypertensive drug therapy to those who have a reasonable chance of benefiting from it. Registration fee is $15. Contact: Office of the Director, The University of Texas Health Science Center at Houston, Division of Continuing Education, PO Box 20367, Houston 77025.

Infertility: A regional postgraduate course will be sponsored by The American Fertility Society in cooperation with the Southern Medical Association on Nov. 11, at the San Antonio Convention Center, San Antonio. Title of the course is "Office Management of the Infertile Couple." Registration is limited and fee is $50. Contact: Registrar, The American Fertility Society, 1801 Ninth Ave. South, Birmingham, Ala. 35205.

Malignant Disease: "Radiologic and Other Biophysical Methods in Tumor Diagnosis" will be the subject of the 18th Annual Clinical Conference Nov. 7-9, at the Shamrock Hilton Hotel in Houston. The meeting, cosponsored by The University of Texas M. D. Anderson Hospital and Tumor Institute at Houston, The University of Texas Health Science Center at Houston, American Cancer Society, and Texas Society of Pathologists, will cover a variety of topics including recent advances in cancer radiology nuclear imaging techniques as applied to oncology, and the use of other physical parameters (ultrasound, infrared, etc.) in oncologic diagnosis and treatment planning. Contact: Dr. Rulon W. Rawson, Vice President for Education and Program Development, The University of Texas M. D. Anderson Hospital and Tumor Institute, 6723 Bertner, Houston 77025.

Obstetrics and Gynecology: The annual T. F. Bunkley Seminar in Obstetrics and Gynecology will be held at Scott and White Memorial Hospital, Nov. 2-3. Dr. John Zelenik, professor of obstetrics-gynecology at Vanderbilt University Medical School will join members of the Scott and White staff as faculty for the course. Problems of menopause, menstrual abnormalities, contraception, and cancer detection and treatment will be discussed in this conference on "Office Gynecology." Family physicians, gynecologists, surgeons, nurses, and residents in training are invited to attend. Credit: Category I, AMA physician's Recognition Award. Contact: Department of Education, Scott and White Memorial Hospital, Temple 76501.

Obstetrics and Gynecology: A review of recent developments in obstetrics and gynecology for the practicing physician and candidates for the American Board Examinations will be presented by The University of Texas Health Science Center at Houston Nov. 8-10 at St. Joseph Hospital, Houston. Contact: Office of the Director, The University of Texas Health Science Center at Houston, Division of Continuing Education, PO Box 20367, Houston 77025.

Pediatrics: The annual pediatric postgraduate symposium, "Recent Advances in Pediatrics," sponsored by the Department of Pediatrics, Baylor College of Medicine, will be held Nov. 15-16 in the auditorium of Texas Children's Hospital, Houston. The symposium will focus on current concepts and new techniques in pediatrics with topics oriented toward the interests of the practicing physician. Registration fee: $25. Contact: Dr. Charles E. Mullins, Symposium Chairman, Department of Pediatrics, Baylor College of Medicine, 1200 Moursund, Houston 77025.

Pediatrics: "Office Practice of Pediatrics and Neonatology," a one-day course to be held Nov. 17, will be cosponsored by South Plains Chapter, Texas Academy of Family Physicians and Texas Tech University School of

Medicine. The course will be held at St. Mary of the Plains Hospital, Lubbock. Contact: Walter R. Gault, Texas Tech University School of Medicine, PO Box 4569, Lubbock 79409.

Renal Disease: The Kidney Foundation of Houston and the Greater Gulf Coast will present a symposium, "Management of Renal Disease—1973," by the faculties of Baylor College of Medicine and The University of Texas Nov. 9-10 at the Marriott Motor Hotel, Houston. Morning programs will be devoted to detailed presentation of clinically important topics in kidney and electrolyte problems. In the afternoon, there will be several small group workshops with special programs for dietitians and dialysis nurses and technicians. Contact: Dr. G. Eknoyan, Assoc. Professor of Medicine, Baylor College of Medicine, Texas Medical Center, Houston 77025.

Urologic Pathology: The Department of Pathology, Baylor College of Medicine, will offer a course in Urologic Pathology designed for urologists who are preparing to become American board certified. It will meet one afternoon per week from November through January, and tuition is $300. Contact: Dr. Joyce S. Davis, Department of Pathology, Baylor College of Medicine, 1200 Moursund, Houston 77025.

DECEMBER

Auscultation of the Heart: This course, sponsored by The University of Texas Medical School at San Antonio, will offer the pertinent physiology and pathophysiology for the production of heart sounds and heart murmurs with concomitant presentation of these sounds using a cardiosimulator. Each enrollee will participate in an analysis of these findings using individual stethophones. The course will be held in San Antonio Dec. 8-9, and is acceptable for 10 hours AAFP and Category 1, AMA Physician's Recognition Award. Contact: Dr. Paul Cutler, The University of Texas Medical School at San Antonio, 7703 Floyd Curl Dr., San Antonio 78284.

Board Examinations: The Texas State Board of Medical Examiners will give examinations Dec. 3-5 in the Municipal Auditorium, Austin. Contact: Dr. A. Bryan Spires, Jr., Texas State Board of Medical Examiners, 900 Southwest Towers, Austin 78701.

Cardiology: A clinical cardiology symposium will be sponsored by The University of Texas Health Science Center at Houston at St. Joseph Hospital, Houston, Dec. 3-6. The course is accredited by the AAFP and will use case presentations and lectures as teaching methods. Contact: Dr. Grant Taylor, Dean, Division of Continuing Education, The University of Texas Health Science Center at Houston, PO Box 20367, Houston 77025.

Glaucoma: The University of Texas Health Science Center at Houston will present a Glaucoma Symposium Dec. 14, in the South Auditorium of Hermann Hospital, Houston. Discussions on various types of glaucoma operations and the complications thereof will be held, including a general panel discussion for the presentation of problem cases. Contact: The Office of the Director, The University of Texas Health Science Center at Houston, Division of Continuing Education, PO Box 20367, Houston 77025.

Pulmonary Disease: The 10th Annual New Orleans International Postgraduate Course for Physicians on "Pulmonary Function in Health and Disease" will be held Dec. 3-6 at Louisiana State University School of Medicine, New Orleans. The course is sponsored by American Thoracic Society, Louisiana Thoracic Society, American College of Chest Physicians, Louisiana State University School of Medicine, Tulane University School of Medicine, Alton Ochsner Medical Foundation, and American Lung Association of Louisiana. Topics to be discussed are Spirometry and Lung Volumes; Pulmonary Mechanics with Emphasis on Small Airways Function; Ventilation Perfusion Relationships; Tests of Pulmonary Mechanics including Body Plethysmography; Closing Volume; and Flow Volume Curves. Tuition: $135, MD's and PhD's; $85, allied health personnel; and $110, members of American Thoracic Society. Contact: W. Findley Raymond, Louisiana Thoracic Society, Suite 1504, 333 St. Charles Ave., New Orleans 70130.

Toxicology: A symposium titled "Advances in Analytical Toxicology" will be presented on Dec. 3-5 at the White Hall Hotel, Houston. The 1st Annual Symposium, presented by the Institute of Clinical Toxicology, Houston, will cover six specific areas of current interest to laboratories. Papers will be presented on the following topics: Street Drug Analysis Programs; Emergency Drug Analysis Programs; Rapid Screening Procedures; Analytical Problems Faced by the Medical Examiner; Role of the Laboratory in Monitoring Drug Abuse Treatment Programs; and Laboratory Proficiency Monitoring. Registration fees: $75 prior to Nov. 19; $100 after Nov. 19. Contact: Institute of Clinical Toxicology, PO Box 2565, Houston 77001.

JANUARY

Ophthalmology: The University of Texas Health Science Center at Houston will present a Basic Science Course in Ophthalmology for eight weeks beginning Jan. 7. The course will emphasize basic scientific principles and their application in clinical practice. Instruction is by lectures supplemented by laboratory sessions. Tuition is $575, and enrollment is limited. Contact: The Office of the Director, The University of Texas Health Science Center at Houston, Division of Continuing Education, PO Box 20367, Houston 77025.

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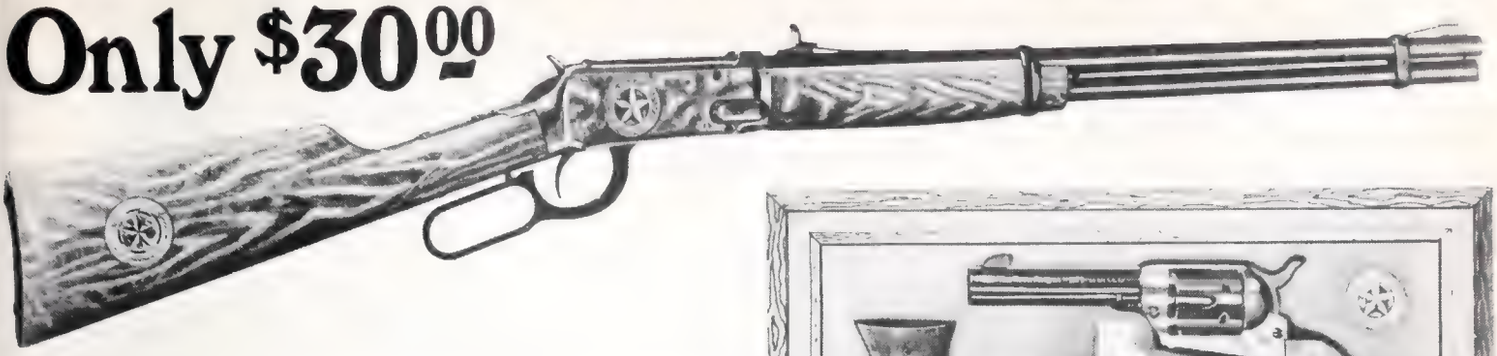

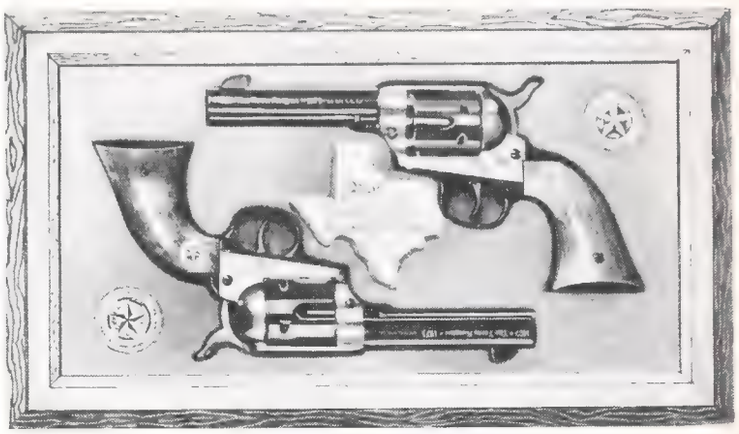

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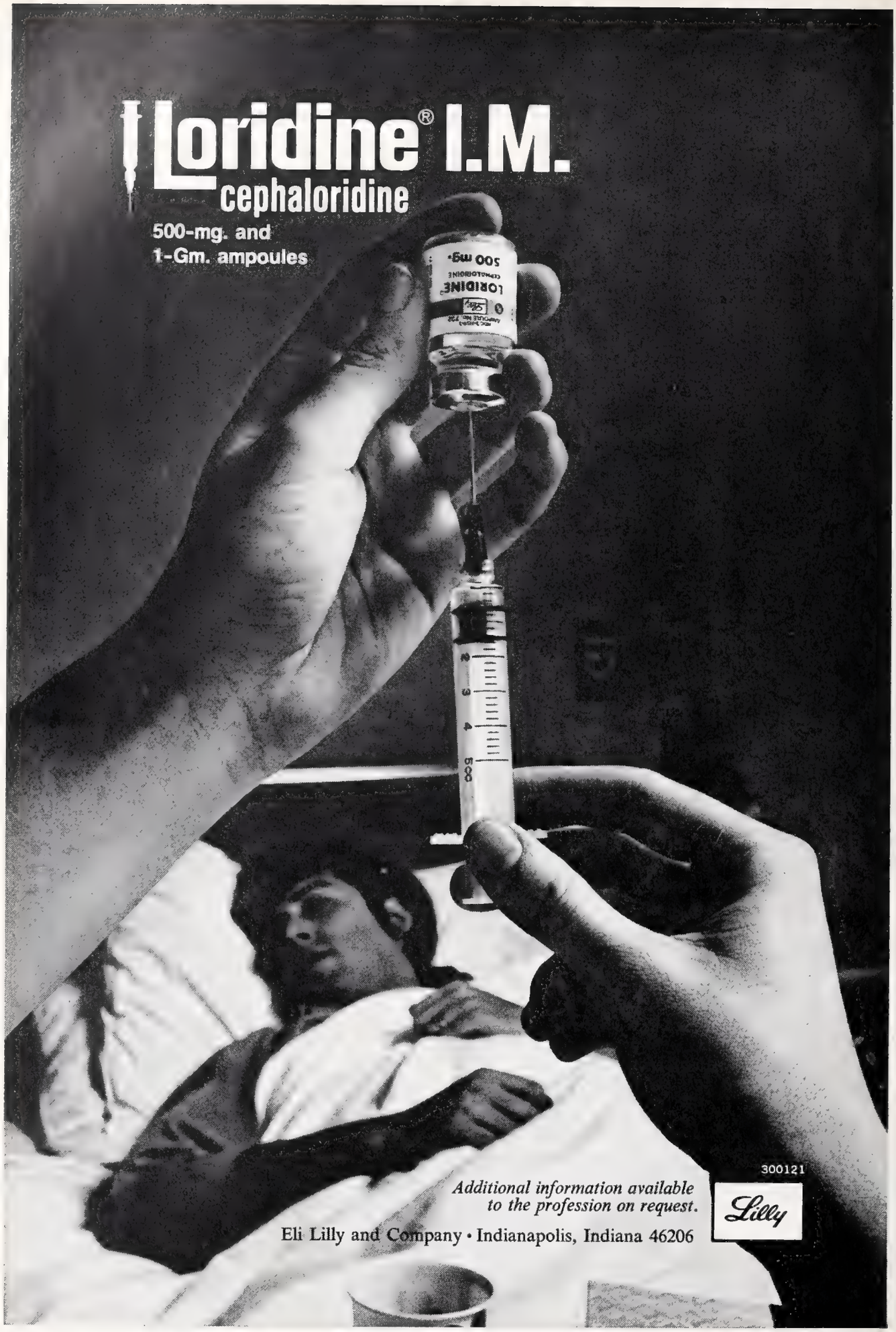
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The multiple drug user

Jerry M. Lewis, MD

Several qualifications need to be stated as an introduction to this article. The first is that whatever facts it contains are, to one extent or another, dated. Lipinski[1] observed that "the drug scene is a rapidly changing phenomenon with regionally idiosyncratic patterns, fashions, and meaning. The information we share today may have little validity tomorrow." Lagging publication dates, frequently a year or longer, contribute to the sense of uncertainty regarding the relevance of data for today or tomorrow.

A variable even more difficult to assess is the influence of ideological factors on the interpretation of data. Goode[2] pointed this out in writing about the marijuana controversy. He notes historical competition between two epistemologies—one called subjectivism, phenomenology, or more recently existentialism; and the other, objectivism, naturalism, or positivism. Acceptance of one or the other, he states, yields radically different conclusions regarding the real world; and both restrict the range of possible observations. Although most of us with backgrounds in science are guided by positivism, ie, "the facts speak for themselves," there is, in many quarters, a growing regard for the more romantic subjectivism. Part, then, of the dilemma regarding the emotionally charged controversy about the use of drugs in modern life is the difficulty in knowing how much a given researcher's observations and interpretations are influenced by such ideological issues. Not infrequently one hears questions regarding what is known about the ideology of a researcher—particularly if he presents data which support an extreme position, regardless of its direction.

A related issue is the practice of loading programs with speakers who tend to support a given ideological stance. This may involve the selection of scientists who report on research, but in fact are used as rhetorical devices to shore up prevailing morality; or to promote social change in a predetermined ideological direction. In discussing marijuana, in particular, Gossett[3] calls attention to another reason for caution. "It seems likely that its role as a controversial agent is in part due . . . to its having somehow taken on the role of scapegoat for the ventilation of strong feelings of hostility and alienation between generations. This displacement seriously impedes accurate appraisal of the drug's true effects . . ." We need to be aware that such variables may significantly distort scientific reports, particularly in areas of public dispute.

With such cautions in mind, let us consider several aspects of the phenomenon of multiple drug use. It is my opinion that the use of currently popular drugs by most young people is casual, experimental, and infrequent. Kenniston[4] refers to these infrequent users as "tasters." But from this growing pool of young people emerges a small subgroup—perhaps 2 to 5%—who go on to heavy use of a wide variety of psychoactive agents, the group of users which Kenniston calls "heads." Although we do not know whether many "heads" are psychologically stable, essentially healthy individuals caught up in a temporary phase of life, we do know the casualties in this group are both dramatic and tragic. Current treatment approaches are not systematically helpful. There is, therefore, great interest in a better understanding of the factors which influence the process of an individual's movement from casual drug use to heavy, multiple use. We do not know with certainty what those factors are. We *think we know* what some of them might be. In organizing what we think about this process, I find it convenient to classify posi-

tions in the controversy in terms of four conceptual frameworks. These are: (1) the devil is in the drug; (2) the devil is in the user; (3) the devil is out there; (4) it ain't no devil, after all.

The notion that the central issue is the nature of the drug itself has never had much real scientific support. Most frequently it has been a political instrument used by some in an attempt to scare people away from all drugs. If people could be made to believe that a given psychoactive drug had such a profound impact upon everyone (or almost everyone) that it led inevitably to a quest for a stronger and stronger drug, then people would, it was hoped, not try any drug.[5,6] Such a scheme oversimplifies the complicated drug-host-setting interaction which determines the way in which psychoactive chemicals make one feel, think, or act. An outstanding example of this approach is the marijuana-heroin linkage. Current studies[7,8] reveal that very few marijuana users go on to heroin—and that, of those who do, relatively few become addicted to heroin.[9] It seems to this observer that there is little evidence that the devil is in the drug.

There is support in the literature[10-12] for the concept that individual factors (the nature of the man, himself) are relevant determinants of the process. These studies contrast the performance of groups of individuals with different drug usage patterns on a variety of psychological tests and interviews. The following trend may be noted. Early in a given population's use of drugs, drug use, per se, is correlated with measurably greater degrees of psychopathology. When, however, the use of a given drug has become widespread there are no significant differences between groups of nonusers and users—except for that small subgroup of users involved in frequent usage and multiple use. This group, on the average, has indices of greater psychopathology than do nonusers or casual users. It should be pointed out that these comparisons are made across groups. One cannot assume, therefore, at the level of the individual, that multiple drug use is associated *invariably* with greater than average psychopathology.

There have been no longitudinal studies of individuals who were evaluated prior to drug use, and then again at progressive stages from experimental, to casual, to heavy, to multiple drug usage. Despite this deficiency in our knowledge, there are numerous reports of studies of the "psychopathology" of drug dependency. They reveal no single personality pattern, clinical diagnosis, or psychodynamic formulation found consistently in such individuals; nor any psychological observation which is not noted in non-drug-using clinical patients.

It is, therefore, my opinion that psychopathology, while frequently concurrent, has not been proved to cause heavy, multiple drug use. *Some* of the devil may be inside.

The third conceptual framework emphasizes the social environment as a determinant of the process of an individual's heavy drug involvement. A variety of foci are apparent, but culture, family, and peers are most often noted. Those who focus on the culture point out our growing reliance upon chemicals as a way of dealing with life in all age groups. This emphasis underscores cultural change in the direction of increased impulsitivity, impermanence, and immediacy at the expense of a commitment to both the heritage of the past and the hopes of the future.[4] To such observers, "the devil is out there" in the midst of a rapidly changing, directionless culture.

At the level of the family we have had little firm data. A pioneering study[13] correlated the level of family aggressiveness with the antiaggressive response of a family member to phenothiazines. Individuals belonging to families with high levels of aggressiveness showed less response to phenothiazines. This study suggests that what goes on within an individual's crucial

social system influences his response to a potent psychoactive agent.

Recently, Blum and associates[14] have published the results of their study of the families of young people who either do or do not use drugs. Their work is not directly relevant to the subject of the multiple drug user because most of their drug using cohort were casual or mild users. Nevertheless, utilizing individual interviews, questionnaires, and interactional studies, they demonstrated striking differences between the families of low and high drug risk adolescents. Although some families judged to be of superior psychological health contained drug using adolescents, in general there was an inverse correlation between family psychological health and adolescent drug use. Of particultar significance was their finding that family variables were more strongly predictive of drug use or nonuse than were individual variables.

At yet a different level, Goode,[9] writing about multiple drug use among marijuana smokers, makes use of an explanatory model which focuses on the drug user's group affiliation and identification as a significant force in the movement toward multiple drug use. If, for example, there is within a group of marijuana smokers an acceptance of the use of LSD, this group force can push the individual marijuana user in the direction of multiple drug use. Goode does not discount individual personality factors in his model, but focuses perceptively upon social group or peer variables which may influence the progression to heavy multiple drug use.

There is a fourth viewpoint which differs sharply from these three. In general, its set about the use of drugs is less severe; they are viewed essentially as one part of an individual's search for new experience and meaning. Weil[15] has written recently from this position. His concern is with altered states of consciousness as "doorways to the next stages of evolutionary development of the human nervous system." He believes that such states have the potential for "strongly positive psychic development." In his terms, therefore, "no drug is inherently good or evil; all have potential for positive use as much as for negative use." Weil proposes that we recognize the importance of altered states of consciousness and the normal drive to experience them. He makes a plea for the development of a "ritual" for drug experience analogous to Indian tribal rituals, although he feels that we should encourage individuals to satisfy their needs for altered consciousness by means that do not require drugs. Although Weil's approach is mainly philosophical rather than factual, his thesis is thought provoking. Perhaps some of the multiple drug users are searching for an altered, and in some way, better state of consciousness. One must be careful, however, about the sample selected for observation. It is extremely relevant whether one observes those drug using students (the majority) who stay hooked into life, or those (the minority) for whom drug usage is correlated with diverse tragedies.

Why certain individuals progress from experimentation or casual use of drugs to heavy or multiple usage is neither simple nor well understood. Perhaps this accounts in part for the failure to develop systematically effective treatment programs. At this point there are no methodologically sound, published reports of treatment programs which are systematically successful. Various approaches meet with some success. This is an area in which we need experimentation and innovation desperately. The following impressions of the treatment of multiple drug users are clinical in nature, stemming from psychotherapeutic and hospital administrative vantage points.

Our initial impression is that, at equivalent levels of psychopathology, heavy or multiple drug users are more difficult to treat than are non-drug users. The reasons for this are not entirely clear. In part, it may be a function of difficulty in establishing a

therapeutic alliance. Many such young people have significant abnormalities in the area of trust as one part of severe preoedipal psychopathology. For whatever reasons, alliances are slow and laborious.

A second consideration is the critical nature of the group affiliation which the patient maintains. If, as is so often true on an outpatient basis, the patient is involved in a drug-using group, such involvement appears to heighten resistance. Our experience in promoting positive protreatment group process[16,17] and its implications for the treatment of drug dependency[18] are the subjects of other reports. However, I am impressed with the cruciality of the central social group, family or peers, as determinants of outcome in a wide variety of psychiatric disturbances including severe drug dependency.

Thirdly, it may be revelant to note that my expectations as a therapist have changed. Five years ago my efforts with this group of patients were clearly oriented toward abstinence. Now, this is not always so. Varying from patient to patient my hope may be, at most, cessation of heavy drug usage accompanied by recommencement of a developmental process in the direction of autonomy and self determination with educational and vocational goals. It has been my impression that such change can and does occur, in some, without complete abstinence. Particularly this is so regarding the continued but casual use of marijuana in some former heavy drug users. Some abstain altogether; but some do not, and yet they no longer are stoned most days, and seem to have reinvolved themselves in traditional, age-appropriate pursuits.

Summary

This article has three objectives. The first is to caution about the impact of feelings and ideological issues on the presentation and interpretation of data in areas of heightened interest. Its second objective is to suggest an examination of the problem of the etiology of multiple drug use from a systems approach which attends to variables from a variety of different leveled, interfacing subsystems. Thirdly, it focuses briefly on several key treatment considerations derived from clinical observation.

References

1. Lipinski E: Motivation in drug misuse; some comments on agent, environment, host. JAMA 219: 171-175, 1972.

2. Goode E: Ideological factors in the marijuana controversy. Ann NY Acad Sci 191:246-260, 1971.

3. Gossett JT: What do we know about marijuana: a review of the literature with the hope of answering "What's so good about it?" and "What's so bad about it?" Timberlawn Found Rep no. 53 (Jan) 1971.

4. Kenniston K: Heads and seekers: drugs on campus: counterculture and American society. Amer Scholar 38:97-112, 1968-1969.

5. Living death: the truth about drug addiction. Federal Bureau of Narcotics pamphlet, Washington, DC, US Government Printing Office, 1965.

6. Giordano HL: Marijuana: a calling card to narcotics addiction. FBI Law Enforcement Bulletin, vol 37, no 11 (Nov) 1968.

7. McAree CP, Steffenhagen RA, Zheutlin LS: Personality factors and patterns of drug usage in college students. Drug Abuse Research Team, University of Vermont, 1970.

8. Mirin SM, Shapiro LM, Meyer RE, et al: Casual versus heavy use of marijuana: a redefinition of the marihuana problem. Pharmachology Laboratory, Division of Psychiatry, Boston University School of Medicine, Boston, Mass.

9. Goode E: Multiple drug use among marijuana smokers. Soc Prob 17:48-64, 1969.

10. Gossett JT, Lewis JM, Phillips VA: Psychological characteristics of adolescent drug abusers and abstainers. Bull Menninger Clin 36:425-435, 1972.

11. McAree CP, Steffenhagen RA, Zheutlin LS: Personality factors in college drug users. Internat J Soc Psychiat 15:102-106, 1969.

12. Cohen AK: Deviance and Control. Englewood Cliffs, NJ, Prentice Hall, 1966.

13. Cohen M, Freedman N, Enbelhardt DM, et al: Family interaction patterns, drug treatment and change in social aggression. Arch Gen Psychiat 19:50-56, July, 1968.

14. Blum RH and Associates: Horatio Alger's Children. San Francisco, Jossey Bass, Inc., 1972.

15. Weil AT: Altered states of consciousness in: Dealing with Drug Abuse. New York, Praeger Publishers, 1972, pp 329-344.

16. Lewis JM, Gossett JT, King JW, et al: Development of a protreatment group process among hospitalized adolescents. Adolescent Psychiatry 2:351-362, 1973.

17. Lewis JM: Development of an inpatient adolescent service. Adolescence 5:303-312, 1970.

18. Lewis JM, Gossett JT: Treatment of drug dependent adolescents: impressions from a psychiatric hospital. Timberlawn Found Rep no. 56.

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The physician's role in learning disabilities

Maj Wilson Wayne Grant, MC, USA

"My child is failing; please do something," is a cry frequently heard by pediatricians and family physicians. Ideally children with learning problems should be evaluated in the school setting with the availability of a team composed of educators, psychologists, and the child's physician. In most communities this ideal is beyond reach at this time. More often than we sometimes like, anguished parents with frustrated children wind up in the physician's office crying "Help!"

"Can you give him a smart pill?" "Is he ready for school?" "Should he repeat the first grade?" "Why won't he do his work? He's smart." These and similar questions are heard by physicians often. Faced with such a barrage during a busy day, most of us are frustrated and confused.

Some authors have questioned the physician's right and authority to answer these questions. Often physicians doubt their ability to answer them. Whether we like it or not, these questions are directed at us and we must formulate some reply. In many communities the physician is the only resource the parents know about.

Just what does the physician have to offer these parents and children? Can he really contribute to the overall evaluation of the child with a learning problem? Is he the best one to coordinate an evaluation? Where do his responsibilities begin and end? This article attempts to put these questions in perspective and suggest some answers.

The Problem

The Pediatric Clinic of William Beaumont General Hospital provides primary medical care for the Army dependents in the El Paso area. All children presenting to the clinic with learning problems are referred directly to the Child Development Clinic, where they are evaluated by physicians, social workers, psychologists, and other specialists when needed. Close cooperation with the public school system is always maintained.

The final diagnosis in 91 consecutive referrals to the clinic during several months of 1971 are listed in Fig 1. These are unscreened patients and are representative of children presenting to family physicians and pediatricians. The spectrum of diagnoses is similar to findings of others.[1]

Numerous studies suggest that minimal brain dysfunction (MBD) is among the most common causes of learning deficiency. This is verified in our patients; in fact, this was the consensus diagnosis in 48% of the cases. A complete discussion of minimal brain dysfunction is beyond the scope of this article and interested readers are referred to current reviews.[2] However, the physician is in a unique position to help these children.

The children with MBD usually have a complex of problems including hyperactivity, impulsive behavior, short attention span, perceptual problems, and poor coordination. Any one of these impairments,

1. Final diagnosis in children with learning disabilities.

Diagnosis		No.
Minimal brain dysfunction		35
Lowered intelligence		17
Low normal IQ (85-89)	8	
Borderline IQ (70-84)	5	
Mentally retarded (IQ under 70)	4	
Emotional disorders		10
Specific reading disability		9
Environmental deprivation (home and/or social problems)		7
Normal child performing normally (overconcerned parents)		6
Hearing loss		2
Situational problems (personality conflict, poor motivation, etc)		5
Total		91

or any combination of them, hampers classroom performance and social adjustment. While some teachers and most good school psychologists can identify these children, the physician can help confirm the diagnosis by his history and physical examination. The medical history may reveal confirmation of brain damage (prenatal, delivery or nursery problems, or a history of meningitis, head injury, etc). The examination might show evidence of abnormal reflexes, poor coordination, obvious hyperactivity, or a neurological syndrome such as seizures or mild cerebral palsy. This information, combined with the teacher's observations and results of psychological testing, will often confirm a diagnosis of MBD. Expensive tests such as EEGs and glucose tolerance tests are of no use in making the diagnosis.[3]

If it is obvious that the child's hyperactivity, distractibility, and short attention span is interfering with his classroom performance, a trial of stimulant medication (Dexedrine or Ritalin) is recommended.[4] Of course, this can only be done under the physician's supervision. If the parents, and especially the teachers, observe that this helps the child's performance, the medication should be continued. If it does not, it should be discontinued after a trial of two to three weeks.

The diagnosis of lowered intelligence is the prerogative of the psychologist; however, all such children should have a medical evaluation. This may provide information about the etiology of the lowered intelligence, allowing more accurate prediction of future performance and aid in genetic counseling. Rarely the physician may discover a treatable medical condition such as hypothyroidism, high frequency hearing loss, psychomotor seizures, or progressive neurological disease, which is hampering the child's performance on the psychological tests. However, it is the educator and school psychologist — not the physician — who should make educational plans for the retarded child.

The physician can contribute to the diagnosis and care of emotionally disturbed children in several ways. The family physician is in a unique position to recognize emotional problems because of his knowledge of both the child and his family. By his training he should be attuned to signs and symptoms of acute and chronic anxiety. When the child's problem is evidently emotional, the physician may be prepared to counsel the family and child; or, if the problem seems beyond his scope, he is likely to have the best knowledge of referral sources within the community.

Certain physical problems affect the child's learning. Visual defects are common in school age children. Rarely the sole cause of poor learning, these can be a contributing factor. Absolute deafness would likely be known prior to the school years, but a partial deafness would not. Children

2. Steps in evaluating a child with learning or behavior problems.

1. A complete history including medical, developmental behavior, and scholastic information is the basic tool in diagnosis.

   Note: A developmental history should be taken when the child is not present. More information will be produced when parents are interviewed alone. Also, children may become quite anxious when their personality or behavior is discussed in their presence.

2. An interview with the child alone in order to discover his concept of himself and his problems is often helpful. It is a must with teenagers.

3. A complete physical examination should be given, with special attention to signs of chronic disease or sensory impairment (poor hearing or vision).

4. An evaluation without a thorough neurological examination is incomplete. This should include a search for neurological disease, as well as "soft signs."

5. A differential diagnosis should be formulated and consultations to help the physician make a definitive diagnosis should be planned.

with a high frequency hearing loss may have poor sound discrimination and be poor readers.

Any chronic ongoing illness (ie, asthma, diabetes, epilepsy, heart disease) may contribute to poor performance in this way. All of these physical problems can best be diagnosed by the physician. Often appropriate treatment will allow the child to function more normally. When a physical problem is interfering with the child's school performance, the physician can help by encouraging the child to maintain the best possible health and by advising the school and parents of his limitations and abilities.

Unless the physician is skilled in areas of psychological testing and wishes to invest more than the usual amount of time, he can offer only peripheral assistance in handling the other problems listed in Fig 1.

The physician can often help by supporting the school. Sometimes parents do not want to believe their child is abnormal. When the school suggests that the child needs special help, parents may hesitate to cooperate. If it is obvious that the school is right, the physician can do the child a service by reinforcing the fact that he needs help. In our society the physician's opinion, particularly the family physician's, is still influential.

Some parents imagine a problem when one doesn't really exist. They want their Johnny with an IQ of 94 to be a straight "A" student when he is capable of only Bs or Cs. When parents are pushing their children to perform above their capacity and thus creating rebellion and/or anxiety in the child, the child's performance will likely suffer. If the physician is aware of this situation, he can act as an ombudsman for the child by encouraging the parents to relax the pressure and develop more appropriate goals for him. The rapport of the family physician can often produce results where the best efforts of the teachers have failed.

The Physician's Responsibility

Having worked among children with learning problems in various situations — including ivory tower child development centers, pediatric practice, and as a school consultant — I am strongly convinced that the responsibility for coordinating the evaluation of such children ordinarily should not belong to the physician. This responsibility belongs with the school and, hopefully, specialists in learning disabilities within the school. The physician's role is that of consultant sharing his unique knowledge of the child with those who must, over the span of the child's school career, solve his learning problems.

The physician's office is not the ideal place to solve the child's learning problem for several reasons: the physician is usually too busy with other aspects of medical care; rarely is he trained in the subtleties of learning physiology; and his office is likely to be isolated from the place where the child's problems by necessity must be solved—the classroom.

Some physicians will have the inclination and expertise to "lead the team" in the evaluation. For most family physicians, the role is one of consultant — evaluating the child's general health, assessing his sensory inputs (vision and hearing), evaluating the child for neurological handicaps, making proper referrals, and prescribing medication when appropriate.

Assisting the Schools: When the schools do decide to move, we should lend our support and skills when needed. We can help educators understand the medical aspects of

learning, while at the same time listening to them. In one community a physician spent some time helping the school develop a physician report form which was concise and yet gave the school pertinent medical information about the child with a learning problem. The physician's influence might help the community accept and support innovative teaching programs being suggested by the schools.

A Look Into the Future

In many communities the future looks bright for the child with learning problems. Research is helping us understand more about the physiology of learning, and new diagnostic and remedial techniques are becoming available. Coupled with this is a greater understanding of the child by those working with him. More and more educators and other professionals are beginning to see him as "a child with a problem" instead of "a problem child." Also, schools are beginning to take the primary responsibility for the evaluation and treatment of these children. The new program for special education in Texas, called Plan A, requires all school districts to reorganize their care of the handicapped child and to set up a diagnostic team to coordinate the evaluation. Such programs are already functioning well in some communities and point the way to greater professional cooperation in helping the child with learning disabilities.

References

1. Kenny TJ, Clemmens RL, et al: The medical evaluations of children with reading problems (dyslexia). Pediatrics 49: 438-442, 1972.
2. Conners CK: The syndrome of minimal cerebral dysfunction: Psychological aspects. Pediat Clin N Amer 14:749-766, 1967.
3. Kenny TJ, Clemmens RL: Medical and psychological correlates in children with learning disabilities. Pediatrics 78:273-277, 1971.
4. Millichap JG, Fowler GW: Treatment of "minimal brain dysfunction" syndromes. Pediat Clin N Amer 14: 767-777, 1967.

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Importance of Dilantin blood levels in managing epilepsy

Terry S. Vincent, MD

More thorough knowledge of the intricacies of epilepsy combined with useful laboratory values will have meaningful impact on the management of this perplexing disorder. This article is designed to further acquaint the clinician with the "problem epileptic."

Diphenylhydantoin (Dilantin) has been used as an anticonvulsant since 1938. It is most effective in the control of grand mal and psychomotor seizures. Petit mal variants respond poorly; and true petit mal seizures are the least affected by diphenylhydantoin therapy.

The management of epileptic patients in the past has been largely a matter of clinical judgment based on trial and error. Physicians strive to control convulsive episodes with a dosage of Dilantin which produces a minimum of side effects. By and large, clinical judgment has been sufficient. The control or lack of control manifests itself and the toxic levels in the acute phase are readily discernible by the appearance of nystagmus, ataxia, unsteady gait, slurred speech, and mental confusion. But these dosage criteria—seizure control and absence of toxicity—are not always evident in:

1. Patients having a low tolerance to Dilantin who display signs of intoxication with modest therapeutic doses and who still exhibit convulsions.
2. Epileptics who seemingly demonstrate inadequate response in the face of a repeatedly increased dosage regimen with no evidence of toxicity.
3. Those who develop insidious chronic intoxication on long-term therapy.

Any clinician experienced in the treatment of epilepsy has been faced with these management problems, which in most instances are directly related to the blood levels of Dilantin.

In 1956 Dill et al[1] first described a method of determining the diphenylhydantoin concentration in the blood by gas-liquid chromatography. Determination of diphenylhydantoin blood serum levels by gas-liquid chromatography (GLC) is an analytical technique in which a small liquid sample containing a diphenylhydantoin derivative, prepared by extraction from blood serum, is converted to a gas. The gas is passed through a column of absorbent material, resulting in a separation of the diphenylhydantoin molecules. These molecules are measured quantitatively, recorded by an automatic detecting device, and then converted to μg/ml of Dilantin.

Metabolism of Diphenylhydantoin

More than 90% of Dilantin is metabolized in the liver. The main metabolite appears in the urine in amounts ranging from 60 to 70% of daily intake. In normal patients with a constant dosage, a quite stable drug level is maintained in the blood. When the drug intake is increased, a balance is created between intake and metabolic processing to give a new and stable blood level. Some patients demonstrate an overly active metabolism which will give extremely low and usually ineffective blood levels. Others, with impaired diphenylhydantoin metabolism, will accumulate the unchanged drug in the body, leading to toxicity. Some patients simply do not absorb diphenylhydantoin.

Dosage and Administration

Dosage schedules are often designed to achieve drug levels which produce optimal seizure control with minimal side effects. The usual blood level range is 10 to 200

μg/ml of plasma. With less than 10 μg/ml, unsatisfactory seizure control is usually seen. Levels higher than 20 μg/ml often begin to produce signs of toxicity. A daily dose of 5 mg/kg body weight (300 mg/day for the average adult) is absorbed slowly, taking 5 to 15 days to reach a stable plateau and to achieve the desired results.

For rapid achievement of effective blood levels, some clinicians recommend an oral loading dose of 1,000 mg. This usually produces therapeutic levels in three to ten hours.The initial dose is followed by 500 mg in the second 24 hours, and then by regular maintenance doses of 300 to 400 mg daily.

Correlation of Dosage with Laboratory Values and Clinical Results

Once the stable plateau has been reached, the blood levels and their effects bear a direct relationship to dosage in the otherwise physically normal epileptic. In adults, the commonly used 300 mg daily dose of diphenylhydantoin will usually give proper therapeutic results, with blood levels averaging 10 μg/ml. Daily intake of 400 mg often will provide blood levels around 20 μg/ml and the first signs of intoxication (nystagmus) begin to be seen. With a 500 mg daily dose, blood levels of 30 μg/ml are usually found, and gait ataxia may be added to the toxic symptoms. Higher doses which produce levels of 40 μg/ml and over are usually associated with a complete toxic picture, including lethargy.

The importance of measuring diphenylhydantoin blood levels is obvious. Such measurement lets the clinician know rather precisely where he stands in the management of physiologically normal patients; and it also helps him differentiate these from the physiologically abnormal or refractory patients.

Physiological Alterations Affecting Dilantin Therapy

1. Enzymatic Deficiency: This is a congenital disorder interfering with the metabolism of diphenylhydantoin. Toxic symptoms begin after two or three weeks of medication at customary therapeutic dosage levels, owing to a continuous rise of drug levels in the blood without stabilization. Cessation of drug intake alleviates the toxic symptoms. Therapy can then be resumed at 30 to 60% of the former dosage without toxic effects and well-tolerated therapeutic results.

2. Liver Disease: Low tolerance is seen with infectious hepatitis due to impaired liver function and the resulting decreased metabolism of diphenylhydantoin. Within a few weeks after the appearance of jaundice, toxic symptoms may become evident and high blood levels will be found in correlation. A reduction in dosage alleviates the toxicity and controls the epilepsy. After improvement of liver function, ie, increased metabolism, the dosage must be adjusted toward its former amount.

Low tolerance may be observed in patients with Laennec's cirrhosis, as well as infectious hepatitis.

3. Kidney Disease: Some patients with poor renal function have an unusually low binding capacity of plasma proteins for Dilantin. Since the unbound fraction probably accounts for pharmacologic activity, some patients stop having seizures with a very low total plasma concentration. In some instances it may be less than 2 μg/ml. The patient with poor renal function, therefore, may require a reduction in Dilantin dosage and may experience toxicity at

plasma levels normally considered to be nontoxic. The alteration of drug binding by pathologic states should be considered in establishing Dilantin dosage regimens.

4. Metabolic Interference by Other Drugs: Epileptics under treatment for tuberculosis with isoniazid and aminosalicylic acid often exhibit decreased tolerance to diphenylhydantoin. This occurs because normal metabolism in the liver is inhibited by these antitubercular drugs. Toxic symptoms and high Dilantin blood levels occur in approximately 10% of epileptics receiving isoniazid, aminosalicylic acid, and therapeutic amounts of Dilantin. Reduction of the Dilantin dosage eliminates the toxicity while maintaining effective blood levels.

Other drugs that may be associated with this phenomenon include chlorpromazine (Thorazine), prochlorperazine (Compazine), chlordiazepoxide HCl (Librium), disulfiram (Antabuse), anticoagulants, and estrogens.

If low tolerance is suspected in patients who possess high blood levels and exhibit toxic symptoms with a therapeutic dosage of Dilantin, the physician should carefully assess all medications the patient might be taking.

5. Excessive Dilantin Metabolism: This rather rare condition causes increased tolerance to the drug. Since the drug is metabolized very rapidly, the dose must be increased. Some patients, because of poor seizure control, have had doses of 600 mg or more daily without evidence of intoxication and with only fair control of seizures. Even with these large doses, blood levels are uniformly low.

Young individuals normally tend to metabolize Dilantin more rapidly than older persons, therefore maintaining lower blood levels at a given dose.

6. Malabsorption of Dilantin: This phenomenon is even more rare than the above. Therapeutic oral doses of the drug produce ineffective blood levels and unsatisfactory seizure control. However, clinical and laboratory response are satisfactory when the intravenous route is used.

7. Effects of Drugs on the Test Itself: The method of Dill and associates[1] is the most specific test for Dilantin in current use. However, others (eg, Svensmark-Kristensen method) may give erroneous results when the patient is taking concurrent medication, such as ethosuximide, primidone, mephenytoin, mephobarbital, bishydroxycoumarin, and phyenylbutazone. Even the oil of cloves and oil of sassafras in the innocuous Doctor Hand's Teething Lotion may give abnormally high false Dilantin levels.

Physical Causes of a Refractory Response to Dilantin

Patients with a refractory response to the drug are those who have frequent seizures despite high blood levels. In many, a structural brain disorder, such as progressive diffuse or focal cortical atrophy or vascular malformation, accounts for the lack of response to medication. The condition may be known previously, of course, but the continuation of seizures in the face of high diphenylhydantoin blood levels should

1. Factors affecting proper control of epilepsy.

Enzymatic deficiency
Liver disease
Kidney disease
Metabolic interference by other drugs
Excessive Dilantin metabolism
Malabsorption of Dilantin
Effects of other drugs on the laboratory test
Structural brain disorders
The epileptic as an unreliable patient

prompt a thorough neurological diagnostic survey that may disclose a serious undiscovered lesion. Seizures in these patients are often better controlled with combinations of anticonvulsants than with Dilantin alone.

Correctable Refractory Response

There is voluminous evidence to substantiate the statement that between 40 and 60% of all epileptics treated with Dilantin simply do not take their medication as prescribed. Some thus experience inadequate seizure control. This group comprises the greatest proportion of patients exhibiting an abnormal response to Dilantin therapy and is the major cause of concern to the attending physician.

The reasons behind this apparent inability to take medicine as prescribed are complex and vary from simple forgetfulness to a psychological rejection of treatment to deny the existence of epilepsy. When these patients are hospitalized and given medication under controlled circumstances, blood levels achieve therapeutic range in a short while.

The unreliability of the epileptic in taking his medication properly is *the* major cause of apparent ineffectiveness of the drug. When faced with absence of desired clinical response, the clinician should be certain the dosage has been maintained and that therapeutic blood levels have been reached before altering his treatment regimen.

Summary

Dilantin blood level assays are becoming an indispensable part of the management of the epileptic patient. Doses well within the usual therapeutic range can cause toxic effects in patients with enzymatic deficiencies, liver disease, or poor renal function. Seizure control may be achieved in these patients with much smaller doses. The same may be true when other drugs, notably the antitubercular drugs, interact with Dilantin. Increased Dilantin intake may be necessary in patients who do not absorb the drug properly or in those who metabolize it at an excessive rate. An underlying structural brain disorder may account for lack of response.

All of the factors mentioned account for only about half of the unusual responses to Dilantin. The major cause of apparent ineffectiveness is the unreliability of the epileptic in taking his medication properly. Only by laboratory assay can the clinician be certain that this category of patient has maintained a proper treatment regimen.

Reference

1. Dill WA, Kazenko A, Wolf LM, et al: Studies on 5,5′ diphenylhydantoin (Dilantin) in animals and man. J Pharm Exper Ther 118:270-279, 1956.

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Traumatic tricuspid insufficiency

Kent Beasley, MD

The number of civilians involved in severe trauma in the United States is constantly increasing, particularly those subject to the acceleration and deceleration injuries caused from motor vehicle accidents. In 1965, 49,000 people were killed and 1,800,000 injured from traffic accidents alone. There were 107,000 killed as a result of accidents of all types in 1965.[1]

In 1970, 55,300 people were killed in motor vehicle accidents and 2 million more were injured. The increasing use of motorcycles has added to the problem with 2,303 killed in 1970, an increase of 18.9% over the year before while registration of motorcycles increased only by 8.6%.[2]

The terrific forces these patients incur when involved in motor vehicle accidents give rise to a variety of injuries previously rather rare in civilians. In a recent report of 100 patients treated in a large municipal hospital for severe blunt chest trauma, 92 cases were the resultof traffic accidents including motor vehicle driver, passenger, auto-pedestrian collisions, and motorcycle accidents.[3]

From the volume of patients generated by this mass trauma, the cardiologist and internist may expect to see complications from nonpenetrating cardiac injury such as arrhythmias, especially right bundle branch block, and atrial fibrillation, and occasionally complete heart block, myocardial contusion, traumatic pericarditis, and acquired atrial and ventricular septal defects.[4]

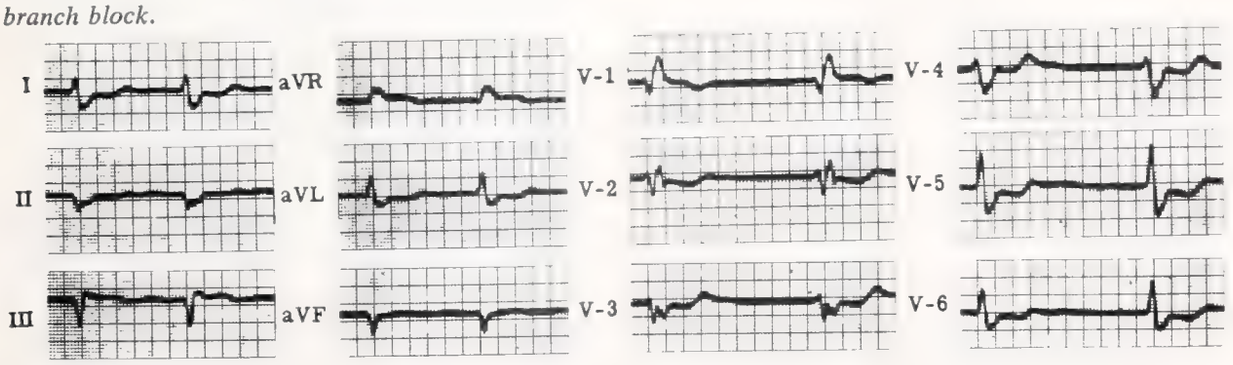
One of the most interesting and challenging entities produced by nonpenetrating cardiac injury is traumatic tricuspid insufficiency, which may be seen many months or years after the original trauma. Removed from the immediate setting, seen in the quiet of a consultation room and not a hectic intensive care unit, it may be confused with other forms of heart disease, notably Ebstein's malformation.

The two cases described demonstrate the clinical features of the entity. Note the striking similarity of the two cases.

Case 1: A 42-year-old white man was referred with cyanotic heart disease, thought to be related to trauma. The patient had been perfectly well until the age of17 at which time he was involved in an automobile accident. He sustained a concussion, laceration of the face, and bruises of the chest and body. Three days after the accident, he developed cyanosis. This progressed and was associated with dyspnea and orthopnea. He developed clubbing, progressive cyanosis, and cardiomegaly. Dyspnea on slight exertion and easy fatigability caused him to retire from work at age 36. He was studied at the Montreal Institute of Cardiology and referred to the Mayo Clinic with the diagnosis of tricuspid regurgitation of traumatic origin and atrial septal defect with a large right-to-left shunt.

Physical examination revealed clubbing and cyanosis. S_2P was widely split. A striking V wave was present in the jugular ve-

1. ECG shows atrial fibrillation with right bundle branch block.



nous pulse. The liver was enlarged and tender. Of special interest was the lack of any murmur despite the gross tricuspid insufficiency.

Laboratory studies showed hemoglobin, 19.3/100 ml, a red blood cell count of 6.82 million/cu mm, and a hematocrit of 68%. The electrocardiogram (ECG) showed atrial fibrillation with right bundle branch block (Fig 1).

A roentgenogram of the chest and fluoroscopy of the heart revealed enlargement of the right atrium and pulmonary vascular congestion. No valvular calcification was noted. Right heart catheterization data are shown in Fig 2.

Arterial desaturation was present. Equal pressures in the right ventricle and right atrium were present. Elevated pressure in the superior vena cava was noted. Minimal elevation of the wedge pressure and main pulmonary artery pressure were present.

An angiocardiogram revealed a large and deformed tricuspid valve with tricuspid regurgitation and an atrial septal defect with right-to-left shunt.

Surgery was performed at which time two small atrial septal defects in the fossa ovalis were closed, and the tricuspid valve was replaced with a Starr-Edwards prosthesis. The findings at surgery indicated that rupture of the chordae tendineae of the anterior leaflet of the tricuspid valve had occurred at the point of their attachment to the papillary muscle.

2. Right heart catheterization data.

	Pressure, mm Hg	% Saturation
Femoral artery	138/83	85
Wedge	22/10	100
Main pulmonary artery	28/16	67
Right ventricle	28/12	67
Right atrium	28/12	67
Superior vena cava	26/10	67

Following surgery the patient was able to return to light work. The cyanosis disappeared. Eight months later arterial oxygen saturation was 95.6% and hemoglobin value 14.3 gm/100 ml. The atrial fibrillation, clubbing, and cardiac enlargement persisted.

Case 2: The second case is that of a 44-year-old white man. He was first seen at the Mayo Clinic in 1949 following injury to his chest; he was struck in the chest by a fragment of a container exploded by compressed air. Dyspnea and cyanosis developed. The patient had no history of heart disease prior to injury. He had an exploratory thoracotomy in 1949 and closure of a patent foramen ovalis in 1953. This latter procedure was performed using the atrial wall technique, and the surgeon's impression was that the patient had an Ebstein's malformation of the tricuspid valve. The patient was followed through the years and reevaluated in April of 1967.

Three months prior to admission, PTA palpitations increased and paroxysmal nocturnal dyspnea (one to two per week for six weeks prior to admission PTA) had developed.

Physical examination revealed a blood pressure of 142/106 mm Hg, pulse rate 118/minute, slight cyanosis, distant heart sounds, a pulsatile liver (grade II/IV), and a prominent V wave in the jugular venous pulse.

Laboratory studies showed a hemoglobin value of 19.8 gm/100 ml; a red blood cell count, 6.11 million/cu mm; and hematocrit, 61%. The ECG showed right bundle branch block with atrial tachycardia with varying block. Chest roentgenogram showed marked cardiac enlargement while cardiac fluoroscopy revealed a grossly enlarged heart, no valvular calcification, and a lobular-shaped heart due to multiple chamber enlargement. The pulmonary

trunk and arteries were small and pulsated feebly.

Cardiac catheterization and angiography were performed on April 12, 1967, and results are shown in Fig 3.

Dye curves demonstrated right-to-left shunting at the atrial level, and tricuspid incompetence.

Angiograms suggested Ebstein's malformation of the tricuspid valve with marked tricuspid insufficiency. Enlargement of the right atrium and right ventricle was noted.

On April 25, 1967, the patient underwent excision of the tricuspid valve and replacement with a 5M Starr-Edwards ball valve prosthesis and closure of interatrial communication.

The anterior leaflet had no point of attachment to the myocardium. The chordae were attached to a thickened piece of scar tissue thought to be a remnant of papillary muscle ruptured at the time of original injury. The valve ring was tremendously dilated and an interatrial communication, partially closed in its mid-portion by previous suture, was identified and closed. The septal leaflet of the tricuspid valve was normal.

The patient had an uneventful postoperative course. The cyanosis disappeared. He was dismissed on a regimen of Lanoxin 0.25 mg twice a day, low salt diet, and Coumadin.[5]

Traumatic tricuspid insufficiency may be successfully attacked surgically with good results, as illustrated. Osborn et al in 1964, reported a case of tricuspid insufficiency caused by traumatic rupture of the anterior papillary muscle of the right ventricle which, after being studied by cardiac catheterization,[6] was repaired by open heart surgery. Goldring et al, in 1966, first reported a Starr-Edwards prosthetic valve implantation for traumatic tricuspid insufficiency.[7] McGoon performed a similar op-

	Pressures, mm Hg	% Saturation
Left brachial artery	92/60	88
Pulmonary wedge	13 (mean)	
Main pulmonary artery	20/13	52
High right ventricle	19/4	
High right atrium		54
Mid right atrium	18/6 (V=18)	54
Low right atrium		52
Superior vena cava		48
Inferior vena cava at diaphragm		55
Inferior vena cava below diaphragm		57

3. Results of cardiac catheterization and angiography.

4. Traumatic rupture of the anterior papillary muscle of the right ventricle.

eration in February, 1964, at the Mayo Clinic.

Additional cases of traumatic tricuspid insufficiency were reported by Shabetai[9] and Salzer,[10] and recently by Liu et al[11] and Jahnke et al.[12] Jahnke emphasized that in mild cases medical management may suffice at least until chronic right ventricular failure develops.

Fig 4 shows a typical rupture of the anterior papillary muscle of the right ventricle.

The development of right-to-left shunt may occur as right atrial pressure increases as a result of the tricuspid incompetence and the stretching of a probe patent valve competent foramen ovale, or as the result of an acquired actual atrial septal defect from these same forces in the area of the fossa ovalis.

The pertinent features of significant nonpenetrating chest trauma from any cause followed by dyspnea, cyanosis, cardiac enlargement, atrial fibrillation, right bundle branch block, increased jugular venous pressure, and perhaps prominent V-wave and enlarged liver, point to traumatic tricuspid insufficiency. A murmur may or may not be present. A pulsatile liver may or may not be present. Considerable time (months to years) may elapse before the full-blown clinical features develop.

Traumatic tricuspid insufficiency may be suspected clinically, and right heart catheterization and angiography will document the clinical findings with equalization of right atrial and right ventricular pressure and right atrial V-wave and desaturation of arterial blood. Right-to-left shunt at atrial level may be demonstrated by dye curves. The anatomical details of the tricuspid valve are usually not well demonstrated angiographically.

Pathologically, the papillary muscle may be ruptured, chordae elongated, and/or ruptured valve leaflet lacerated, or the leaflets may be stretched and thinned. These findings are seen at surgery, and the valve ring is dilated.

The surgical correction yields good results although if cardiomegaly, right bundle branch block, and atrial fibrillation have existed for long, they may persist.

The differentiation from Ebstein's malformation may cause difficulty. The symptoms of dyspnea and fatigue and physical findings of cyanosis, clubbing, and laboratory data, including ECG evidence of low voltage and right bundle branch block and the physiologic catheterization data of marked right-to-left shunt at atrial level and angiographical data may cause confusion.

The usual medical history of a patient who is perfectly well with no evidence of heart disease prior to significant chest trauma will guide the clinician to the correct diagnosis, even though the trauma may have occurred some years earlier. Ironically, those more versed in complex congenital heart disease are more likely to be confused with the differential diagnosis from Ebstein's malformation.[5]

Traumatic tricuspid insufficiency is emerging as a clinical entity. It must be considered in patients who have significant chest wall trauma followed by the development of cyanotic heart disease. Surgical repair by valve replacement and closure of the acquired atrial septal defect is feasible and is clinically helpful.

References

1. Accident Facts. Chicago, National Safety Council, 1966, pp 3-40.

2. Transportation. The Americana. American Corporation, Rand McNally & Company, 1972, p 683.

3. Bricker DL, Upton J, Telford JR: Blunt trauma to the chest. Texas Med 68:74-83, 1972.

4. Beasley HK: Nonpenetrating Cardiac Injury (bibliography), thesis. Graduate School, University of Minnesota, 1967.

5. Tachovsky TJ, Giuliani ER, Ellis FH: Prosthetic valve replacement for traumatic tricuspid insufficiency. Amer J Cardiol 26:196-199, 1970.

6. Osborn JR, Jones RC, Jahnke EJ: Traumatic tricuspid insufficiency. Circulation 30:217-222, 1964.

7. Goldring D, Behrer MR, Antoniou CA, et al: Nonpenetrating trauma to the heart. J Pediat 68:677-692, 1966.

8. Brandenburg RO, McGoon D, Campeau L, et al: Traumatic rupture of the chordae tendineae of the tricuspid valve. Successful repair twenty-four years later. Amer J Cardiol 18:911-915, 1966.

9. Shabetai R, Adolph RJ, Spencer JC: Successful replacement of the tricuspid valve ten years after traumatic incompetence. Amer J Cardiol 18:916-920, 1966.

10. Salzer J, Weintraub R, Lower R, et al: Isolated tricuspid insufficiency. Report of a case with valve replacement. Amer J Cardiol 18:921-927, 1966.

11. Liu SM, Sako Y, Alexander CS: Traumatic tricuspid insufficiency. Amer J Cardiol 26:200-204, 1970.

12. Jahnke EJ, Nelson WP, Aaby GV, et al: Tricuspid insufficiency, the result of nonpenetrating cardiac trauma. Arch Surg 95:880-886, 1967.

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Cardiovascular complications of total hip replacement

Per H. Langsjoen, MD; Robert A. Murray, MD

New medications must be proved safe as well as effective before the Food and Drug Administration will permit their general use. Although there are no federal regulations to that effect, good medical practice requires that similar standards be applied to new surgical procedures. The recent and promising technique of total hip replacement with prostheses adequately qualifies for such surveillance as an elective operation designed to add to the quality of life rather than its duration. The following study of 123 consecutive cases of total hip replacement was designed to define the cardiovascular tolerance of this operation.

Previous Study

In order to place the subject of cardiovascular complications incident to total hip replacement into proper perspective, it is necessary to refer briefly to our controlled study[1] done in 1968-1969 on the use of dextran 40 (Rheomacrodex) for the prevention of postoperative thromboembolism, one of the prime indicators of intolerance to orthopedic surgery. In that study, it was established that in orthopedic patients at high risk from thromboembolism, the tissue trauma involved resulted in a significant rise in plasma fibrinogen with a coincident increase in blood viscosity and also in abnormal red cell aggregation. All three of these variants were returned toward normal by infusions of dextran 40 with a corresponding decrease in the incidence of thromboembolism from 19.5% to 0% (critical ratio, 3.1). Although dextran 40 also increased plasma volume, there was no case of intolerance in this relatively young group of patients (average 50).

Materials and Methods

As a consequence of the results of this previous study, all patients having total hip replacement have been placed on a basic postoperative hydration program including 2.5 liters of 10% dextran 40 over a 68-hour period, plus at least equal volumes of other fluids in the same period. No anticoagulants were given unless thromboembolism occurred. Thus, 123 cases of total hip replacement have presented an opportunity to evaluate not only the tolerance of the procedure but also the risks of prophylactic programs designed to improve the tolerance of the surgery. All patients received either McKee-Farrar or Charnley-Muller prostheses according to the procedure of the former[2] and the adhesive technique of Charnley.[3]

Results

The general data on this group of patients (Fig 1) revealed an elderly population, mean age of 67 years; 48% over 70 years of age; and a substantial (26%) incidence of known cardiovascular disease. Almost half of the patients had some significant medical disease. Thus, patients who need this kind of surgical treatment represent a group at high risk from cardiac and circulatory failure and from thromboembolism. In subsequent considerations, patients with and without known cardiovascular disease will be considered as separate subgroups.

An effort was made to determine wheth-

1. Total hip replacement, 123 patients, 48 men, 75 women, ages 39-82 years. Mean age, 67 years; 48%, 70 years.

Medical Disease	Patients	%
Cardiac or arterial disease	32	26
Diabetes mellitus	8	7
Venous disease	8	7
Other diseases	8	7
Without medical disease	67	53

er or not the dextran 40 infusion program represented a significant risk to these patients (Fig 2). Hospital records showed that 12 (38%) of 32 patients with known cardiovascular disease and 16 (17%) of the remaining 91 patients, combined incidence 23%, had the infusion load of dextran 40 reduced to 60% or less than the programmed dosage. Initially, this altered dosage appeared to indicate poor tolerance, particularly in patients with cardiovascular disease. Yet, on seeking the justification for reducing the dosage of dextran 40 (Fig 3), the infusions were stopped in 4 patients because of heart failure, in 2 for oliguria (< 30 cc/hr), and in 1 for an allergic reaction, all considered as valid instances of intolerance. On the other hand, infusions were stopped in 2 patients because of excessive wound drainage, in 1 for convulsive disorder, and in 16 for no really good reasons. Two patients did not receive dextran 40 because of advanced age (> 80 years). In reality, only 7 patients presented good reasons for reducing the dextran 40 infusions, an incidence of intolerance of 6%; the other alterations were based on "clinical judgment." It, therefore, seems that the load of dextran 40 was quite well tolerated, but that monitoring of its administration remains necessary. The 23% who received less than optimum prophylaxis for thromboembolism will be considered separately in studying the incidence of thromboembolism.

2. Altered dosage of dextran 40 in 28 patients.

Total No. Patients Treated	Patients Treated with <200 Gm Dextran 40	%
32, Cardiovascular disease	12	38
91, Other diseases	16	17
Total 123	28	23

3. Reasons for altering dosage of dextran 40 in 28 patients.

Condition	No. Patients
Heart failure	4
Oliguria	2
Excessive wound drainage	2
Convulsions	1
Skin rash	1
Clinical judgment	18
Total	28

There were 8 instances of cardiac decompensation, an incidence of 7%, all occurring in patients with known cardiovascular disease (Fig 4). The incidence of heart failure in patients with known cardiac disease was therefore quite high (25); yet, only 1 patient failed to respond to treatment and died from heart failure. On the other hand, the cardiovascular tolerance of this procedure in patients with known cardiac disease was excellent (0/91). This difference is highly significant (critical ratio, 4.9).

The question immediately arose as to whether the patients went into cardiac decompensation because of the procedure or because of dextran 40 therapy (Fig 5). In 8 of 32 patients with cardiovascular disease, reduced amounts of dextran 40 were given for reasons other than cardiac; yet, 3 (38%) later developed decompensation. In the remaining 24 cardiac patients, 20 receiving full courses of dextran 40 and 4 having infusions curtailed because of heart failure, there were 5 cases of decompensation (20%). It would, therefore, appear that the dextran 40 was of little importance in the genesis of heart failure, and that failure was the result of the cardiocirculatory stress of the operation. The incidence of additional complications was high (50%) cerebral thrombosis, 1 case; pulmonary embolus, 1 case; and phlebitis, 2 cases; indicating the additional risk of

Total No. Patients	Patients With Cardiac Decompensation	%
32, Cardiovascular disease	8	25
91, Other diseases	0	0
123	8	7

Additional Complications: Cerebral thrombosis, 1; pulmonary embolus, 1; phlebitis, 2

4. Complications following total hip replacement.

intravascular thrombosis in the presence of cardiac failure. One might interpret these data as showing that in the presence of known cardiac disease, adherence to the dextran 40 program was increasingly vital.

The incidence of thromboembolic complications is subdivided into those patients with and those without cardiovascular disease and into those with and without optimum prophylaxis (Fig 6). Thrombophlebitis was diagnosed on the basis of clinical findings, both during hospitalization and on follow-up examination, and in some patients by impedance plethysmographic techniques. Pulmonary emboli were diagnosed on the basis of clinical findings, x-ray and lung scan. In the patients with cardiovascular disease, 2 (10%) of 20 who had adequate dextran 40 therapy and 3 (25%) of 12 who received reduced quantities of dextran 40, developed thromboembolic complications (critical ratio 1.2, not significant). In the group without cardiovascular disease, 2 (2.6%) of 75 patients who had adequate dextran 40 and 2 (12.5%) of 16 with inadequate dextran 40 developed thromboembolism (critical ratio, 2, of borderline significance). The combined incidence of thromboembolism in patients with optimum prophylaxis was 4%; with less than optimum prophylaxis, 18% (critical ratio, 2.6, significant). The incidence in patients with cardiovascular disease was 15%; in those without cardiovascular disease, 4% (critical ratio, 2.4, probably significant). The total combined incidence was 7%. Again, the increased risk of thromboembolism in the presence of known cardiac disease and the importance of a good prophylactic program was evident. Of the 9 thromboembolic complications, 2 patients had isolated phlebitis, 5 had pulmonary emboli, and 2 had combinations of these complications.

There were 2 deaths in this series of 123 patients, an incidence of 1.6% (Fig 7). One patient's death was caused by cardiac decompensation and complicating pulmonary emboli, and one died from massive cerebral thrombosis with mild heart failure. Both patients were from the group with known cardiac disease. One patient developed frequent ventricular premature beats that required treatment. There were no instances of wound infection or myocardial infarction. There were 2 mild cases of hepatitis,

5. Cardiac decompensation, (32 patients in cardiovascular group).

Total No. Patients	Patients with Cardiac Decompensation	%
8, Treated with <200 gm, dextran 40	3	38
24, Others	5	20
32	8	25

*6. Total hips, thromboembolism.**

Cardiovascular Disease Group	No. Patients with Thromboembolism	%
12, Treated with <200 gm dextran 40	3	25
20, Others	2	10
32	5	16
Noncardiovascular Disease Group		
16, Treated with <200 gm dextran 40	2	12.5
75, Others	2	2.6
91	4	4
Total Series		
123	9	7

*Pulmonary embolus, 5; phlebitis, 2; combined, 2

7. Deaths.

Number	Cause
1	Heart failure + embolus
1	Heart failure + CVA

probably related to blood transfusion. Thus, the cardiovascular risk essentially represents the medical risk in patients requiring total replacement of the hip.

Conclusions

These data show that in patients without cardiovascular disease who were given good prophylactic treatment for thromboembolism, the risk of thromboembolism was low (2.6%) with no incidence of heart failure or death. On the other hand, suboptimal prophylaxis permitted an appreciable occurrence of thromboembolism (12.5%). The best present index of risk of thromboemboli without prophylaxis is in the vicinity of 50%,[4] a risk which is hardly acceptable. In our patients with known cardiac disease, there was a 25% risk of cardiac decompensation which appeared to be related to the surgical trauma; a 6% risk of death; and a 10% risk of thromboembolism which was increased to 25% when dextran 40 therapy was inadequate (combined 16%). There appears to be no question of the safety of total hip replacement in patients without cardiovascular disease who are given good prophylaxis with dextran 40. In the patients with cardiovascular disease, the surgical risk usually is reasonable but must be related to the need for the operation in each individual case.

References

1. Langsjoen PH, Murray RA: Treatment of postsurgical thromboembolic complications. JAMA 218:855-860, 1971.

2. McKee GK, Watson-Farrar J: Replacement of arthritic hips by the McKee-Farrar prosthesis. J Bone Joint Surg 48B:245-259, 1966.

3. Charnley J: Anchorage of the femoral head prosthesis to the shaft of the femur. J Bone Joint Surg 42B:28-30, 1960.

4. Evarts CM, Feil EJ: Prevention of thromboembolic disease after elective surgery of the hip. J Bone Joint Surg 53A:1271-1280, 1971.

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The dextran 40 used in this study was supplied as Rheomacrodex by Pharmacia Laboratories Inc., Piscataway, NJ.

This study was supported by a grant from the Lola B. Wright Foundation, Austin, Texas.

Muscle biopsy in neuromuscular disease

Dennis Lee Martin, MD

The muscle biopsy has become an increasingly important part of both the routine diagnostic and the investigational approaches to neuromuscular disease. Neuromuscular disease includes, by definition, pathologic processes involving the motor unit. The motor unit is composed of a lower motor neuron and its spinal nerve roots, peripheral nerves, neuromuscular junctions, and muscle fibers (Fig 1). A muscle biopsy routinely can be expected to provide evidence of abnormality when the motor unit is diseased at some point.

Clinically, neuromuscular disease can be divided into: myopathies, diseases affecting the muscle fiber itself; neuropathies, diseases affecting the lower motor neuron cell body in the spinal cord or its axon in the peripheral nerve; mixed myopathy and neuropathy; diseases of the neuromuscular junction; and diseases of undetermined etiology. The myopathies may be either primary, ie, the result of a pathologic process which on the basis of present evidence is considered intrinsic to the muscle fiber itself, or secondary, ie, the result of a pathologic process extrinsic to the muscle fiber (Fig 2).[1] The neuropathies may be classified in a variety of ways, one of which is outlined briefly in Fig 3.

Any evaluation of a patient with a neuromuscular complaint begins with a thorough history, including a detailed family history, which is followed by a complete general and neurologic examination. A tentative diagnosis is made and routine laboratory tests (ie, serum creatine phosphokinase and aldolase levels, electromyography [EMG], and nerve conduction studies) are performed.

Once these preliminary studies have been done, a muscle which is mildly or moderately involved and one which has not been studied electromyographically or subjected to other trauma can be selected for biopsy. It is convenient to study muscles on one side of the body with EMG, then to biopsy an homologous muscle on the opposite side. In the majority of patients, the biopsy is performed on the biceps brachii, vastus lateralis, or gastrocnemius muscles. The advantage of this method of selection is that greater experience is gained in determining the normal and abnormal characteristics of a specific muscle, setting the limits of normality for that muscle.

Although muscle biopsy is an excellent diagnostic and research technique, it should not be used to evaluate progress of disease or response to therapy. The biopsy is representative of the small area sampled and is not necessarily representative of changes in other regions of the body musculature. Conversely, a disease process which is not widespread could be missed by a muscle biopsy. This is not an infrequent occurrence in some instances of polymyositis and endocrine or metabolic myopathies.

Once the muscle has been selected, local anesthesia can be used during the biopsy except in some children in whom light general anesthesia in necessary. Care must be taken not to inject anesthetic, epinephrine, or other agents into the muscle itself. Tissue obtained at biopsy is routinely studied as follows:

1. Light microscopy by both paraffin sections and rapid freezing in isopentane and liquid nitrogen for enzyme histochemistry.
2. Biochemistry. The tissue is immediately frozen in liquid nitrogen or powdered dry ice and stored.
3. Electron microscopy. The tissue is prepared in cold buffered osmium tetroxide or other fixative.

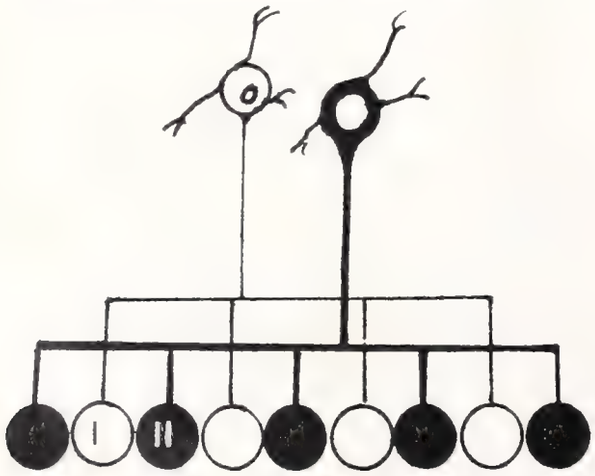
4. Special studies, ie, motor and plate or nerve terminal stains, tissue cultures, etc.

Enzyme histochemistry has become a cornerstone of the diagnostic evaluation in many laboratories dealing with neuromuscular disease.[2] A pathologic diagnosis may be reached rapidly with frozen material and, in addition, muscle fiber types may be differentiated. This is a critical asset regarding the diagnosis of the neuropathies. As with any technique, artifacts are possible, but those common to muscle histochemistry will not be discussed. There is no substitute for experience and consistency in procuring, handling, preparing, and evaluating muscle biopsy material.

Normal Voluntary Muscle

Normal human skeletal muscle fibers are long, multinucleated, striated fibers, each of which is composed of a number of myofilaments surrounded by a sarcolemmal membrane with subjacent nuclei. Surrounding each muscle fiber is a thin layer of connective tissue, the endomysium. Groups composed of 50 to 100 muscle fibers, called fascicles, are surrounded by a thicker layer of connective tissue, the perimysium. Finally, the entire muscle is surrounded by a connective tissue sheath or capsule, the epimysium.[3]

1. Diagram representing two normal motor units.



Biopsy material can be viewed either longitudinally or in cross-section. In cross-section, the individual muscle fibers have a polygonal shape and the diameter is fairly uniform for a given age and sex.

Modified trichrome stain is recommended for general purposes. It provides good contrast for evaluating muscle fibers, connective tissue, blood vessels, myelinated nerves, and muscle spindles.[4]

At least two types of muscle fibers can be distinguished with histochemical stains. Type 1 fibers are rich in oxidative enzymes, eg, reduced form of diphosphopyidine nucleotide (DPNH); poor in glycolytic enzymes, adenosine triphosphatase (ATPase); and they correspond to red or slow muscle. Type 2 fibers are rich in the enzymes involved in the glycolytic pathway, poor in the oxidative enzymes, and they correspond to white or fast muscle (Fig 4). Normally, all fibers belonging to the same motor unit are the same histochemical type so that type 1 muscle fiber belongs to a type 1 motor unit.[5,6] The normal histochemical pattern in cross-section is that of a checkerboard because of the intermingling of muscle fibers of different motor units.

Myopathy

The most striking change in a myopathy is degeneration, regeneration, and phagocytosis of scattered muscle fibers. Abnormal variability of fiber diameter may be present but is not always helpful in differentiating a myopathy from a neuropathy. Frequently, sarcolemmal nuclei become internalized, plump, and vesicular (Fig 5).

I. Primary

A. Muscular dystrophies
1. Duchenne pseudohypertrophic type
2. Oculocraniosomatic dystrophy
3. Facioscapulohumeral dystrophy

B. Congenital myopathies of unknown etiology
1. Nemaline or rod myopathy
2. Mitochondrial myopathy
3. Myotubular myopathy

C. Myotonic disorders
1. Myotonic atrophy (dystrophy)
2. Myotonia congenita

D. Glycogen storage diseases
1. Muscle phosphorylase deficiency (McArdle's disease)
2. Acid maltase deficiency

E. Familial periodic paralysis
1. Hypokalemic periodic paralysis
2. Hyperkalemic periodic paralysis (adynamia episodica hereditaria)
3. Normokalemic periodic paralysis

F. Tumors of muscle
Rhabdomyosarcoma

II. Secondary

A. Trauma
1. Physical
Anterior tibial syndrome
2. Toxic
Haff disease
3. Drugs
a. Chloroquine
b. Alcohol

B. Inflammatory
1. Polymyositis
2. Dermatomyositis
3. Sarcoidosis
4. Trichinosis

C. Muscular disorders associated with endocrine or metabolic diseses
1. Thyrotoxicosis
2. Myxedema
3. Nutritional myopathy (protein, vitamin E deficiency)

D. Myopathy associated with malignant disease
1. Carcinomatous myopathy
2. Myasthenic-myopathic syndrome

E. Myopathy associated with electrolyte imbalance
Hypokalemia
a. Gastrointestinal wastage
b. Excessive thiazide therapy
c. Primary aldosteronism

III. Muscular disorder of unknown etiology

1. Paroxysmal myoglobinuria
2. Generalized myositis ossificans
3. Acute muscular necrosis of unknown cause

2. Classification of myopathies.

I. Lower motor neuron diseases

A. Amyotrophic lateral sclerosis

B. Infantile spinal atrophy (Werdnig-Hoffmann disease)

C. Poliomyelitis

II. Root lesions

A. Postinfectious polyradiculopathy (Guillain-Barre syndrome)

B. Trauma

C. Syphilis

D. Tumor

III. Peripheral nerve lesions

A. Mononeuropathies and plexus neuropathies
1. Carpal tunnel syndrome
2. Brachial plexus neuropathy

B. Polyneuropathy (using pattern of degeneration as basis of classification)

1. Axonal
a. Arsenic
b. Vincristine

2. Segmental demyelination
a. Guillain-Barre syndrome
b. Diphtheria

3. Mixed
a. Diabetes mellitus
b. Lead

IV. Disorders of neuromuscular transmission

A. Myasthenia gravis

B. Myasthenic syndrome

C. Toxic (botulism, tick paralysis)

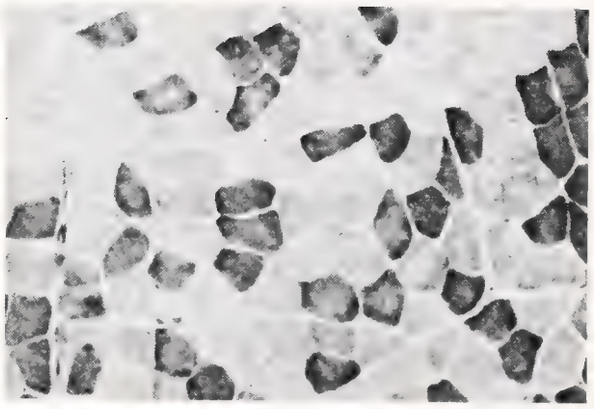
V. Idiopathic lesions

A. Stiff man syndrome

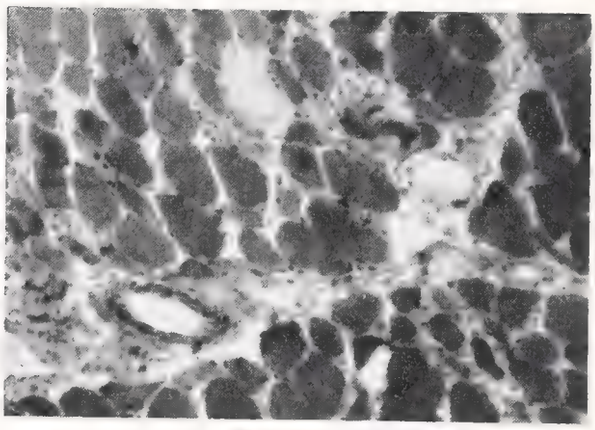
B. Syndrome of continuous muscle fiber activity

C. Disuse atrophy

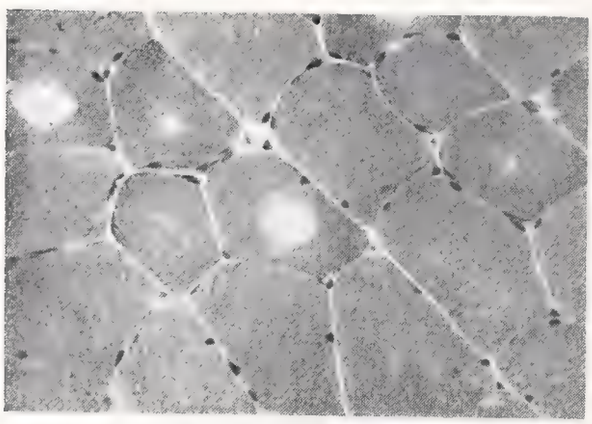
3. Classification of neuropathies.



4. Normal muscle. DPNH stain showing normal type 1 and type 2 muscle fibers.



5. Myopathy. Modified trichrome stain showing a degenerating fiber and phagocytic cells in the interstitium.



6. Periodic paralysis. Modified trichrome stain showing single central vacuoles in several fibers.

As the myopathy progresses, connective tissue becomes more prominent, and replacement of muscle by adipose tissue is seen. The majority of myopathies will exhibit these changes.

Classification of specific types of myopathy requires the demonstration of more characteristic pathologic changes. Evidence of an inflammatory process should be sought in the form of round cell infiltrates and perivascular cellular reactions. Another useful sign associated with the inflammatory myopathy of collagen-vascular diseases, particularly childhood dermatomyositis, is that of perifascicular fiber atrophy.[7] In situations wherein muscle fiber necrosis or inflammatory cellular infiltrate is sparse, the finding of perifascicular fiber atrophy has been consistently associated with the clinical picture of proximal muscle weakness, as seen in polymyositis. Patients whose muscle biopsies show perifascicular fiber atrophy in the absence of fiber necrosis and cellular infiltrates frequently benefit from the administration of corticosteroid drugs. Dystrophies, and nonspecific and inflammatory diseases of skeletal muscles incorporate the majority of patients with myopathies.

Some rather rare myopathic processes, which have characteristic histochemical changes, include the following:

Muscle phosphorylase deficiency or McArdle's disease is histologically characterized by subsarcolemmal blebs and absence of phosphorylase activity in the muscle fibers.

Central core disease is characterized by an absence of oxidative enzyme and phosphorylase activity from the center of the myofiber.

Rod or nemaline myopathy is distinguished by numerous rod-shaped structures in dense collections in portions of an

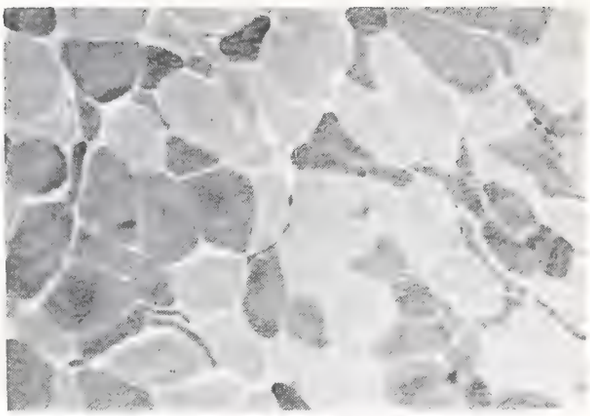
otherwise intact muscle fiber. The rod structures appear to be altered Z band material. Fresh frozen tissues stain red with the modified trichrome stain and paraffin sections appear dark purple in an over differentiated phosphotungstic acid hematoxylin (PTAH) stain.

Periodic paralysis of both the hyperkalemic and hypokalemic forms characteristically show single central vacuoles in muscle fibers (Fig 6). These vacuoles are thought to contain fluid which accumulates during an attack. Therefore, they may not be present during an interattack period and the biopsy material appears normal.

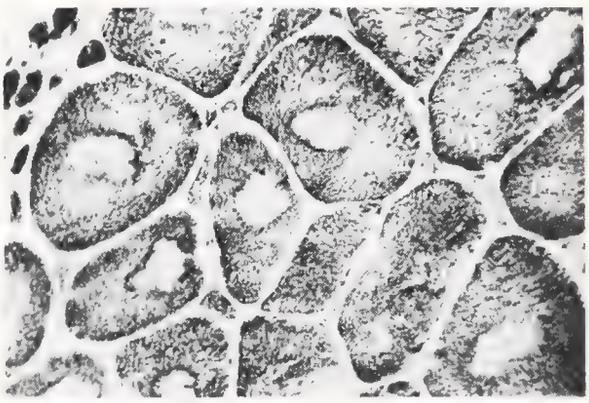
Mitochondrial myopathy (megaconial and pleoconial myopathy) has by definition a complement of unusually large mitochondria or an abnormally large number of normal sized mitochondria. In addition to abnormalities of size and number, bizarre structural changes in mitochondria are also typical. On histochemical study, muscle fibers in mitochondrial myopathy show subsarcolemmal accumulations of red-staining material with the modified trichrome stain. These same areas are, in addition, Oil Red-O positive. Electron microscopy has shown that these subsarcolemmal accumulations are collections of abnormal mitochondria.

Neuropathy

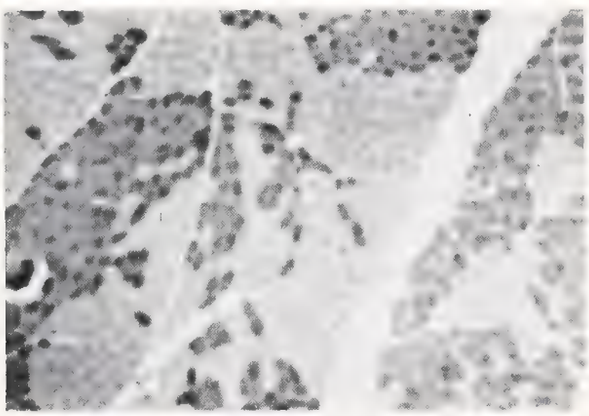
In general, a neuropathy secondary to anterior horn cell disease cannot be distinguished from one secondary to peripheral nerve disease. The histologic findings in each form consist of scattered, small, angular fibers occurring either individually or in groups (Fig 7). These fibers frequently stain excessively dark for oxidative enzymes such as DPNH. Cytoarchitectural changes of individual fibers are rare and



7. Neuropathy. ATPase stain showing small angular fibers.



8. Neuropathy. DPNH stain showing several target fibers.



9. Neuropathy. ATPase stain showing fiber type grouping with groups of both type 1 and type 2 fibers.

degenerative—regenerative changes are seen infrequently. Target fibers, which are seen only in neuropathies, are defined as fibers with three distinct concentric zones of different staining intensity, particularly when the DPNH stain is used (Fig 8). Pyknotic nuclear clumps, which are sarcolemmal nuclei remaining after myofibers have degenerated, are another finding in a denervative process.

In a neuropathy, fiber type grouping and predominance are frequently found. These are manifestations of fallout of certain motor units, frequently of the same fiber type, with the remaining intact motor units reinnervating groups of denervated muscle fibers by a process of collateral sprouting of terminal axonal twigs (Fig 9). In late stage denervation, differentiation from late stage myopathy may be difficult. Connective and adipose tissue are increased in both, but all fascicles tend to be involved in a myopathic process; whereas, some fascicles are severely involved while others may be spared in a neuropathy.

Although the majority of denervative diseases will show some or all of the above findings, a few specific disease states may be characterized by other histologic changes which may be neuropathic in origin:

Type 2 fiber atrophy is a disorder with an apparent exclusive decrease in size and with some angulation of type 2 muscle fibers. It has been found in patients with a number of diverse chronic diseases, including collagen-vascular diseases, myasthenia gravis, neoplasms of various types, corticosteroid treatment, muscle disuse, and cachectic states. In myasthenia gravis, in addition to type 2 fiber atrophy, typical signs of denervation usually are found. Lymphorrhages are seen in about 25% of biopsies.[3]

Myotonic atrophy (myotonic dystrophy) presents a distinctive assortment of pathologic findings including type 1 fiber atrophy which is seen only in this disease: ring fibers, sarcoplasmic masses, scattered angular fibers, and rare degenerating fibers. Because many histologic and clinical features of this disease are more neuropathic than myopathic in nature, it perhaps should be classified as a neuropathy rather than a myopathy.

Summary

Neuromuscular disease covers a vast clinical area, and many clinical entities have not been classified. Because the cornerstone to good therapy is proper diagnosis, the muscle biopsy has been and will continue to be an integral part of any neuromuscular evaluation. The techniques are simple and the information to be gained is essential to treatment.

References

1. Research Group on Neuromuscular Diseases: Classification of the neuromuscular disorders. J Neurol Sci 6:165, 1968.

2. Engel WK: The essentiality of histo- and cytochemical studies of skeletal muscle in the investigation of neuromuscular disease. Neurology 12:778-794, 1962.

3. Walton JN, ed: Disorders of Voluntary Muscle, 2nd ed., Boston, Little, Brown and Company, 1969.

4. Engel WK, Cunningham GG: Rapid examination of muscle tissue. An improved trichrome method for fresh-frozen biopsy specimens. Neurology 13:919-923, 1963.

5. Warmolts JR, Engel WK: "Correlation of motor unit behavior with histochemical myofiber type in humans by open biopsy electromyography," in: Desmedt JR, ed: New Developments in Electromyography and Clinical Neurophysiology. Basel, S. Karger, in press.

6. Edström L, Kugelberg E: Histochemical composition, distribution of fibres and fatigability of single motor units. Anterior tibial muscle of the rat. J Neurol Neurosurg Psychiat 31:424-433, 1968.

7. Engel WK, Brooke MH: "Muscle biopsy as a clinical diagnostic aid," in: Fields W, ed: Neurological Diagnostic Techniques. Springfield, Ill, Charles C Thomas, 1966.

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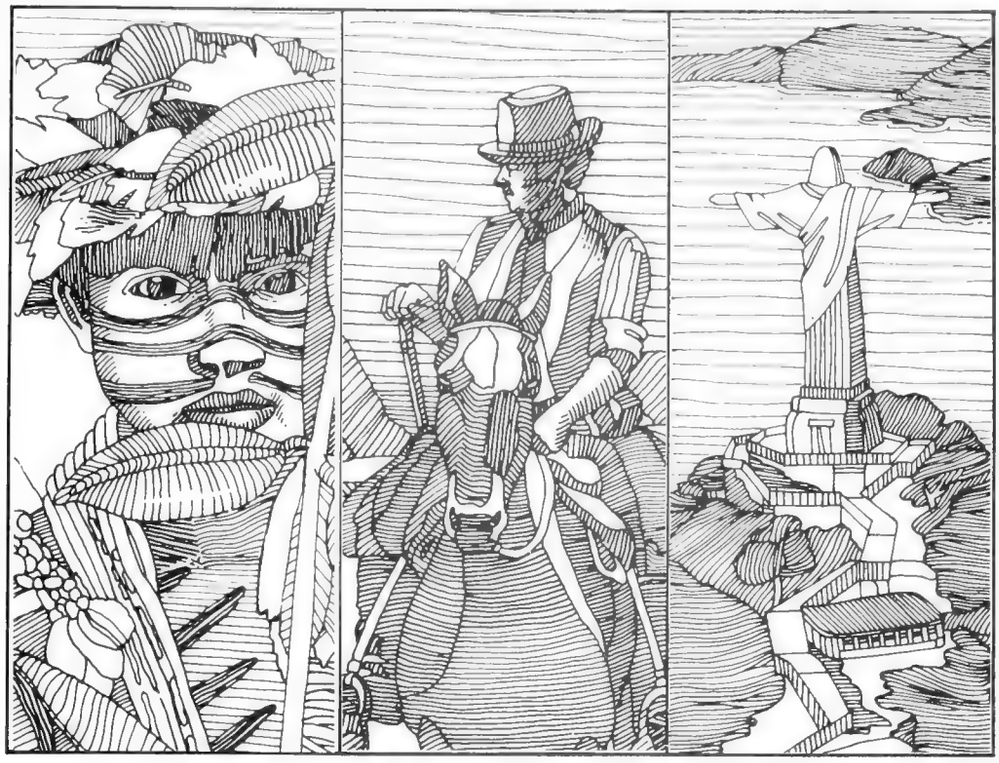

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1. Braverman, L. E., Ingbar, S. H., and Sterling, K.: Conversion of Thyroxine (T_4) to Triiodothyronine (T_3) in Athyreotic Human Subjects, J. Clin. Invest. *49*:855-64, 1970.
2. Surks, M. I., Schadlow, A. R., and Oppenheimer, J. H.: A New Radioimmunoassay for Plasma L-Triiodothyronine: Measurements in Thyroid Disease and in Patients Maintained on Hormonal Replacement. J. Clin. Invest. *51*:3104-13, 1972.

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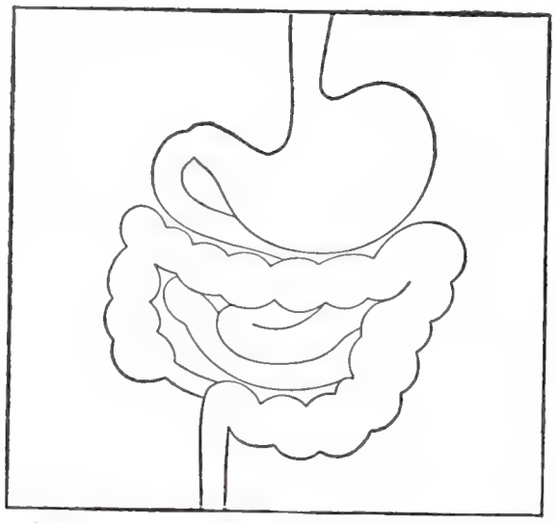

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Surgical management of rheumatoid arthritis of the upper extremity

Morton H. Leonard, MD

This article outlines the indications for surgery of an upper extremity involved in rheumatoid arthritis, and details what results can be expected.

Surgical treatment for rheumatoid arthritis is a relatively new concept. Indications are controversial as to what should be done and when.

Pathology and Pathogenesis

Consideration of the pathology and of what is known of the pathogenesis of this bizarre, unpredictable condition gives a better idea as to indications. Rather than calling this disease rheumatoid arthritis, let us call it invasive synovitis. The autoimmune process believed to be involved in the pathogenesis of this disease attacks the synovial membrane. The macroglobulin, rheumatoid arthritis factor, (the antibody) combines with gamma globulin (the antigen) to form inclusion bodies in the synovial cells. Rupture of these cells releases enzymes which can cause swelling and destruction of tendon, ligament, and cartilage. Distension of the joint stretches ligaments. Tendons rupture and cartilage is dissected away.[7]

From the philosophic standpoint, the removal of this synovium should be helpful. At one time it was felt that excision of diseased synovium was followed by regeneration of normal lining. Then the concept was that although the new synovium histologically resembled rheumatoid synovium, it behaved normally. Recently Ellison, et al,[1] reported on 390 synovectomized digital joints. They concluded that if the systemic disease remained active, it recurs in many of these joints and the destructive process continues. They did feel, however, that early removal of the synovium might protect the joints. This is a view between Preston's[5] concept that if a joint is swollen for four months the synovium should be removed, and conclusions of Freyberg[2] who found that in more than 60% of the hands there was no damage for at least three years from the onset of the disease.

Indications

In selected cases a prophylactic synovectomy should be done. The cases chosen for surgery are those where it has not been possible to control the synovitis by medical means, immobilization, or local injection, where the joint or joints are accessible, and where the surgery will not cause loss of function.

A bonus of synovectomy is relief of pain.

A strong indication for surgical intervention is nerve compression due to synovial swelling. For example, in synovitis about the flexors of the fingers, the median nerve can become compressed at the wrist. This causes pain in the median nerve distribution and weakness of opposition by paralyzing the abductor pollicis brevis. The ulnar nerve can be compressed in the ulnar tunnel (Guyon's canal). This is sometimes the cause of the interosseous atrophy seen in the rheumatoid hand. Relief of the nerve compression arrests the process and a good recovery from both the sensory and motor abnormalities is common.

Other reasons for surgery are to correct deformity and to improve function.

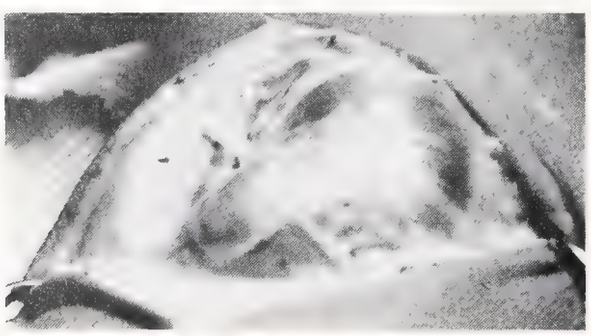
Before contemplating surgery for a patient with rheumatoid arthritis, one should have a roentgenogram of the cervical spine. Instability at various levels can result in catastrophe when patients are intubated (Fig 1).

We will now detail the subject from the regional standpoint, giving examples of

1. Subluxation C-5, C-6 in a patient with rheumatoid arthritis. The subluxation was discovered on a routine cervical spine roentgenogram.

2. The periosteal elevator is in a pit caused by invasion of synovium into the neck of the radius.

3. Synovitis about wrist extensors.



what is done and what to expect, at least over the short term. There are no extensive series of follow-ups of surgery in rheumatoid arthritis (in terms of 10, 20, or 30 years), and we are dealing with a disease that continues. Hence, the end results are tentative.

Shoulder

At the shoulder surgery is rarely done. Local injections of corticosteroid are helpful in the treatment of the frequent bicipital tenosynovitis. Excision of the outer end of the clavicle sometimes is indicated.

Elbow

Synovectomy and debridement of the elbow usually are helpful in relieving pain and increasing the range of motion. Removing the head of the radius appears to be an important part of this procedure. The following case is an example: A 20-year-old woman had arthritis for three years. Her elbow was swollen and its motion restricted. Roentgenograms were normal. At the time of debridement and synovectomy, invasion of the olecranon and the neck and head of the radius was seen (Fig 2). A lateral approach was used because it allows motion earlier than if the olecranon is osteotomized. Adequate ingress can be obtained through this incision.

Even with advanced changes, the elbow improves with a "clean out" and resection of the radial head.

Wrist

At the wrist the tendons and their sheaths are often invaded by synovitis (Fig 3). The radiocarpal and intercarpal joints are frequently involved. The dorsal tendons are

readily accessible. Dorsal synovectomy, combined with laying the dorsal carpal ligament under the tendons and excising the distal ulna, is one of the most common procedures done in treating rheumatoid arthritis of the hand. Bow stringing of the extensor tendons can be prevented by laying only a portion of the dorsal ligament under the tendons, but if it occurs it causes minimal functional disability. The relocated dorsal carpal ligament protects the tendons from further invasion from the wrist joint synovitis. If synovitis of the dorsum of the wrist is permitted to continue it can be one of the factors in tendon rupture (Fig 4).

If the wrist joint itself is involved, synovectomy of the radiocarpal and intercarpal joints with tightening of the dorsal capsule will help to stabilize the wrist. However, if the arthritis is active the joint will deteriorate again, and wrist fusion is preferable although it is not easy to attain.

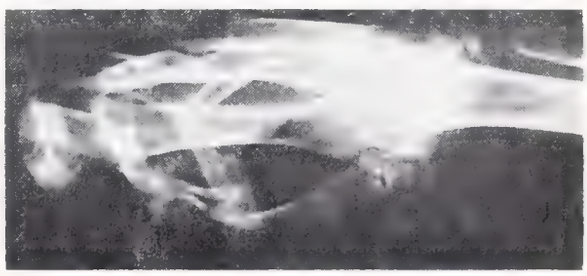
Even a "seal flipper hand" can be improved (Fig 5a, b, and c).

4. Inability to extend middle, ring, and small fingers secondary to tendon rupture.

5a. "Seal flipper" hands.

5b. Lateral radiograph of "seal flipper" hand.

5c. After stabilization.



Ulnar Drift

There is a reciprocal relationship between joints. If the wrist is deviated radially, the fingers tend to deviate ulnarward. Stabilization or fusion by controlling radial deviation helps to prevent the ulnar drift of the fingers.

Another factor in ulnar drift is tightness of the ulnar intrinsics. The intrinsic muscles of the hand, among other things, flex the metacarpophalangeal joints and extend the interphalangeal joints. When tight, the interphalangeal joints can be passively flexed when the metacarpophalangeal joint is flexed but not when the metacarpophalangeal joint is extended (Fig 6a, b). In rheumatoid arthritis there seems to be a selective tightening of the ulnar intrinsics

6a. Intrinsic tightness prevents interphalangeal flexion when the metacarpophalangeal joint is extended.

6b. Interphalangeal flexion is possible when the metacarpophalangeal joint is flexed.

7. Volar displacement of the flexor tunnel adds to the ulnar and volar vector force of the pull of the flexor tendon.

so that with the metacarpophalangeal joints extended straight or deviated radially, flexion of the interphalangeal joints is not possible; whereas, if the metacarpophalangeal joints are deviated ulnarward, flexion can be carried out. This tightness of the ulnar intrinsics tends to pull the metacarpophalangeal joints and fingers ulnarward as the hand is closed.

Displacement of extensor tendons into the valleys between the knuckles pulls the fingers to the ulnar side.

The flexors of the minor fingers all pull in the ulnar direction. Distension of the metacarpophalangeal joints moves the sling (the flexor tunnel) which holds the tendons up to the metacarpal heads palmward and increases the leverage (Fig 7).

Thumb

The thumb, said to constitute 50% of the function of the hand, is frequently involved in rheumatoid arthritis in any or all of its three joints. The carpometacarpal joint is frequently disrupted. Synovectomy would seem to slow down this process. When the joint is disrupted, fusion is one way to approach the problem (Fig 8a, b). Another way is prosthetic replacement.

At the metacarpophalangeal joint of the thumb, in early disease, one can correct the "gooseneck thumb" and the "gamekeepers thumb" by tendon transfers after synovectomy is done. The method described by Nalebuff[3] is to use the long extensor of the thumb to extend the metacarpophalangeal joint, and the intrinsic tendons to extend the interphalangeal joint (Fig 9). The "gamekeepers thumb," which is instability in the frontal plane of the thumb, is treated by transferring a portion of the adductor pollicis to the base of the proximal phalanx. When the joint is badly

damaged, fusion is indicated (Fig 10a, b).

Metacarpophalangeal Joints of the Minor Fingers

In the readily accessible metacarpophalangeal joints of the minor fingers, early synovectomy is probably of benefit, but it is difficult to advise surgery in the early phase of a disease which is so erratic. However, as we do not know in which cases there will be arrest, prophylactic synovectomy is often done. It should not be done alone, but should be combined with appropriate tendon transfers: transfer of adjacent lateral bands to the radial side of fingers, relocation of the extensor apparatus, and resection of the abductor digiti quinti.

When joint destruction has occurred[7] in addition to synovectomy, joint resection with interposition of Silastic prosthesis at least in the short term, gives improvement in function and certainly offers cosmetic improvement.

Silastic is the brand name for a medical grade of silicone. Silicone is an analogue of rubber with the substitution of atoms of silica for carbon. The most commonly used Silastic prostheses are the Swanson[6] and the Niebauer.[4] The Niebauer has a Dacron

8a. Subluxed carpometacarpal joint of the thumb. Note the zigzag deformity of this digit.

8b. After stabilization the thumb straightens.

coating to fix the prosthesis in the medullary canal; the Swanson prosthesis does not.

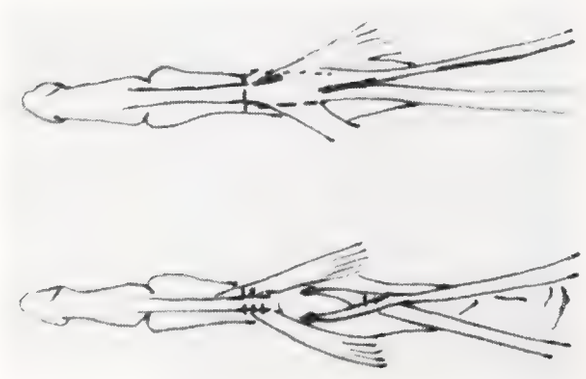
The Swanson prosthesis comes with sizers (Fig 11). These are used to minimize the handling of the prosthesis. They come in sterile packets and must not be contaminated with dust, talc, suture material, etc, or reaction may occur (Fig 12).

The only complication I have seen from the use of prostheses in the metacarpophalangeal joints has been fracture of the device. Devices will break if overly stressed or if the "skin" is punctured or torn.

Just as in synovectomy, one must balance tendon pull about the joints. The immediate result can be outstanding (Figs 13-15).

Proximal Interphalangeal Joints

The proximal interphalangeal joints are a real problem since they are so finely engineered and have such small tolerances. Persistent synovitis can stretch out the insertion of the central tendon and permit volar subluxation of the lateral bands, forming a boutonniere deformity. Synovectomy of these joints, entering the dorsum by elevating the lateral bands and the volar pouch by incising the accessory collateral ligament, permits synovectomy without interfering with the extensor apparatus. Early motion can be carried out since no deep sutures are used (Figs 16-18). Immediate end results are good.



9. Nalebuff procedure. On the right, the line of section of the central tendon to free it from intrinsics and distal tendon is indicated in dotted lines. On the left, the finished procedure with the extensor tendon now through a drill hole in the proximal phalanx of the thumb and the intrinsic tendons sutured to the distal portion of the long extensor tendon.

Volar synovitis can also involve the flexor tendons in the fingers. This can result in loss of active flexion. If volar synovitis is not controlled by medical means, a synovectomy should be done before the joints lose their ability to flex passively.

The established boutonniere deformity is difficult to correct and the procedures used for the traumatic boutonniere are not successful. Tenotomy of the lateral bands on the dorsum of the middle phalanx or fusion of the proximal interphalangeal joint are two effective procedures.

Swan neck deformity or recurvatum at the proximal interphalangeal joint is a difficult deformity to treat, but it can be prevented by resecting the oblique lateral bands before the deformity becomes fixed. Arthrodesis usually is required for the fixed deformity (Figs 19a, b).

Unstable distal interphalangeal joints are sometimes fused.

Summary

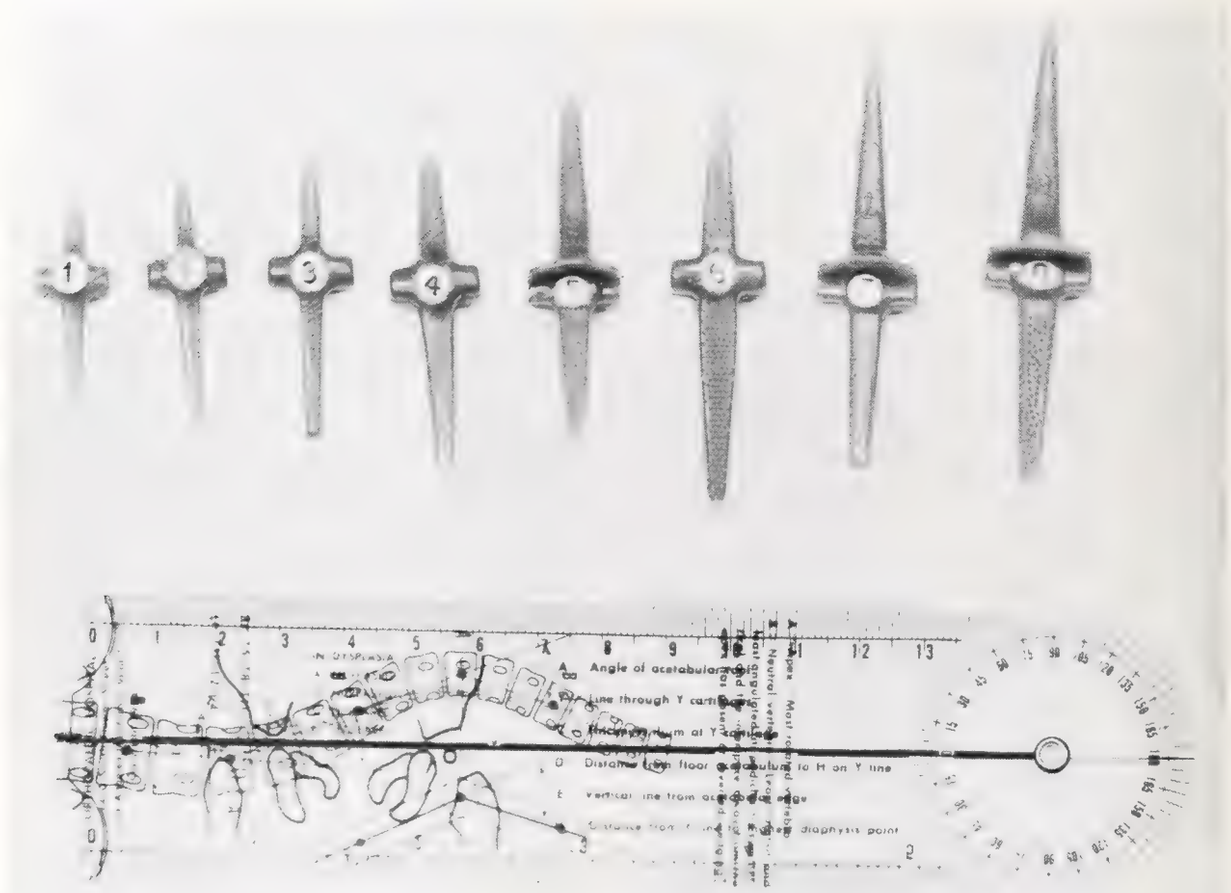
If the site of reaction between the antigen, gamma globulin, and the antibody is the synovial membrane, prophylactic removal of the synovium should be beneficial in arresting progression of disease in a rheumatoid joint or in a tendon sheath. Prophylactic removal of the invasive synovium does seem to delay cartilaginous destruction, ligamentous stretching with resultant subluxation, dislocation of joints, and rupture of tendons. Long-term follow-ups as to the effect of prophylactic synovectomy are lacking. The short-term results are usually

good; the long-term results remain to be ascertained.

The result of corrective surgery other than successful arthrodesis can deteriorate if the disease remains active. On the other hand, in many cases, synovectomy appears to be the only treatment to control the ravages of invasive synovitis.

Specific useful operations include: resection of the outer end of the clavicle, debridement and synovectomy of the elbow, tenosynovectomy of the extensor tendons at the wrist with stabilization or arthrodesis of the wrist itself, and excision of the distal

10a, b. Before and after metacarpophalangeal fusion of the thumb.



11. The sizers for the Swanson prostheses.

12. A Swanson prosthesis overlying a metacarpophalangeal joint to give concept of appearance and size.

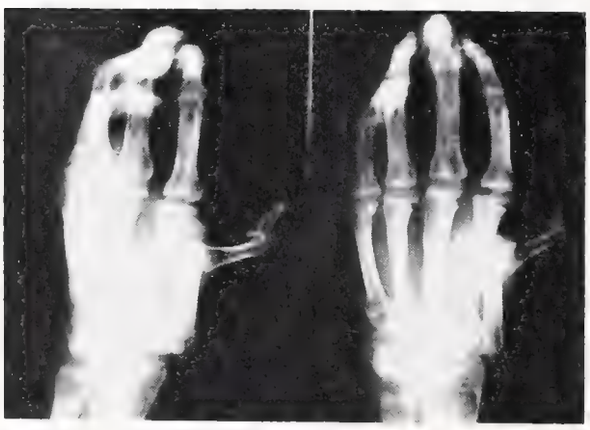
13a. Rheumatoid patient making a fist.

13b. Same patient making a fist after resectional arthroplasties, balancing of tendons and insertion of Silicone spacers.

14a. Preoperative opening of the hand.

14b. Postoperative opening of the hand.

15a. Roentgenograms prior to surgery. Note joint subluxation and ulnar deviation of the fingers.



15b. Postoperative roentgenograms.

16. Note the volar plate of the metacarpophalangeal joint. The incision is made just dorsal to this same structure at the level of the proximal interphalangeal joint.

end of the ulna. On the volar aspect of the wrist, tenosynovectomy and release of compression of the median and/or ulnar nerves is of benefit.

The various elements causing ulnar drift of the fingers, including radial displacement of the wrist, can be treated in the hope of slowing or stopping the deviation.

Synovectomy and tendon transfers can be applied to the joints of the thumb in the absence of marked deformity and in the presence of intact cartilage. In fixed deformities fusion is used.

In the minor fingers synovectomy and balancing of tendons or resectional arthroplasty with the use of Silastic spacers—again balancing the tendons—gives good early results.

In the proximal interphalangeal joints, synovectomy can be done. Early boutonniere deformity can be helped by sectioning of the lateral bands over the middle phalanx. Swan neck deformity can be delayed or prevented by intrinsic releases. Fusion is sometimes necessary in boutonniere and swan neck deformities. In the distal interphalangeal joints, fusion is sometimes done.

References

1. Ellison MR, Kelly KJ, Flatt AE: The results of surgical synovectomy of the digital joints in rheumatoid disease. J Bone Joint Surg 53-A:1041-1060, 1971.
2. Freyberg RH: Medical World News (Nov 10), 1967.
3. Nalebuff EA: Restoration of balance in the rheumatoid thumb: The rheumatoid hand. L'Expansion Scient Franc, Paris, 1969.
4. Niebauer JJ, Shaw JL, Doren WW: The Silicone-Dacron hinge prosthesis: Design, evaluation and application. J Bone Joint Surg 50-A:634, 1968.
5. Preston RL: Medical World News (Nov 10), 1967.
6. Swanson AB: Flexible implant arthroplasty for arthritic finger joints. J Bone Joint Surg 54-A:435-455, 1972.
7. Zvaifler NJ: A speculation on the pathogenesis of joint inflammation in rheumatoid arthritis. Arth Rheum 8:289-293, 1965.

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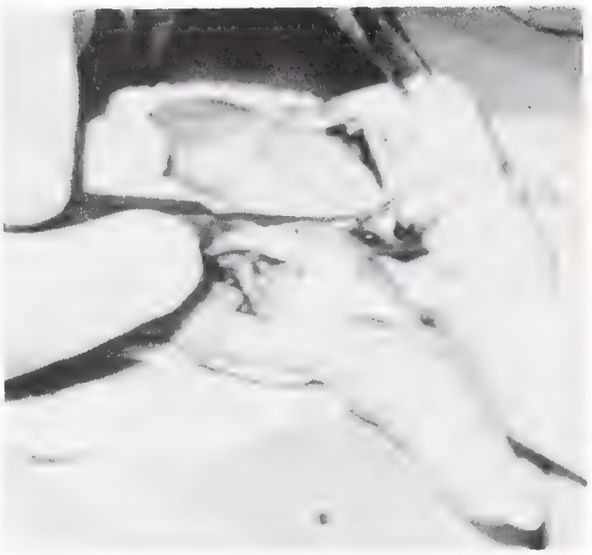
Presented at the El Paso Symposium on Rheumatic Diseases, April 1972, El Paso, Texas.

17. Lifting of the lateral bands to expose the synovial proliferation on the dorsum of the proximal interphalangeal joint.



18. The opening into the volar pouch, note the head of the proximal phalanx.

19a. Fixed "swan neck" deformities.

19b. Note the restoration of a curve to the fingers after arthrodesis in the index and long fingers and tenotomy over the middle phalanx in ring and small fingers.

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Subarachnoid hemorrhage from malignant schwannoma of cauda equina

William R. Bernell, MD; John J. Kepes, MD; Charles A. Clough, MD

Subarachnoid hemorrhage of spinal origin is uncommon. Of the 6,368 cases of subarachnoid hemorrhage studied in the Cooperative Study, edited by Sahs, only three of spinal origin were mentioned.[27] Less than 25 cases secondary to cord tumors have been reported.

To our knowledge, spinal subarachnoid hemorrhage from a malignant schwannoma has not been reported.

Although schwannomas are common intraspinal tumors,[11,12,20,26] their malignant counterpart is rare intradurally. A case having both the unusual features of spinal subarachnoid hemorrhage from a cord tumor, and a malignant schwannoma of the cauda equina is reported and discussed.

Most spinal subarachnoid hemorrhages are caused by vascular malformations of the cord,[1-4] although they may also result from polyarteritis nodosa, aneurysms, hemorrhagic disorders, toxic infective states such as typhoid, trauma, lumbar puncture, and tumors.[5] The rarity of spinal subarachnoid hemorrhage secondary to tumors is illustrated by Prieto and Canta, in that they could find only 17 cases in the literature prior to 1966.[3] The most common cord tumors to bleed are ependymomas, followed by neurofibromas.[3,6-8] Other tumors include meningiomas, neurogliomas, tuberculomas, meningeal sarcomas, hemangiomas, and hamartomas.[3,5-13] Review of the literature has not revealed any cases of spinal subarachnoid hemorrhage from a malignant schwannoma.

The clinical symptoms of spinal subarachnoid hemorrhage vary depending upon the bleeding site. Subarachnoid hemorrhage in the lumbar area is the most common; Walton[4] reviews 15 cases, 14 being lumbar. These patients present with severe midline low back pain (coup de poignard),[11] followed by radicular pain, then multiple nerve root deficit. Many then develop signs of increased intracranial pressure (40% of the patients in Walton's series had papilledema). The pain is usually aggravated by motion, and historically the patients may have multiple hemorrhages before their tumor is diagnosed.[7] Coma is unusual.[4] The patients usually recover from their cauda equina syndromes.

The syndrome seen in hemorrhage from higher in the spinal canal usually consists of midline pain, then radicular pain, followed by paraplegia, which is rarely reversible.[9,14] Depending upon the amount of bleeding, and the proximity to the brain, these patients may also manifest cranial nerve palsies, headache, and coma.

Subarachnoid hemorrhage of spinal origin is usually found in a younger age group than that of intracranial origin, the average age being 26 years. Males predominate 3:1.[8,3]

There are very few cases of malignant intradural schwannomas in the literature, perhaps due to the frequency of their benign counterpart, or perhaps because they usually arise on large nerve trunks which are not present in the cauda equina. D'Agostino et al[15] report three intradural tumors in their series of 24 malignant schwannomas found in patients without von Recklinghausen's disease; and none in his series of 21 malignant schwannomas in patients with von Recklinghausen's disease.[16] Stewart and Copeland[17] review 64 cases of malignant schwannoma, only one of which might have been intradural (reported on the C-8 nerve root). Plotkin[18] reviews 11 neurogenic sarcomas, none intradural. Gautier-Smith[19] reports two intradural schwannomas, one with "malig-

nant changes," and the other with "numerous mitotic figures."

An argument exists concerning whether malignant schwannomas arise de novo or from preexisting benign schwannomas in the cauda equina. Rubinstein[20] states that "malignant degeneration of a schwannoma intradurally has not been reported . . . in contrast to the rare but well established sarcomatous changes which may take place in peripheral nerve sheath tumors."

Most of the literature reports that malignant schwannomas occur in 10-15% of people with von Recklinghausen's disease; however, malignant intradural schwannomas seem to occur more frequently in patients not having von Recklinghausen's disease, when one compares D'Agostino's two series.[15,16]

The results of treatment appear to be poor; the only reported survivor was one of D'Agostino's patients[15] who was treated with surgery (twice) and radiation.

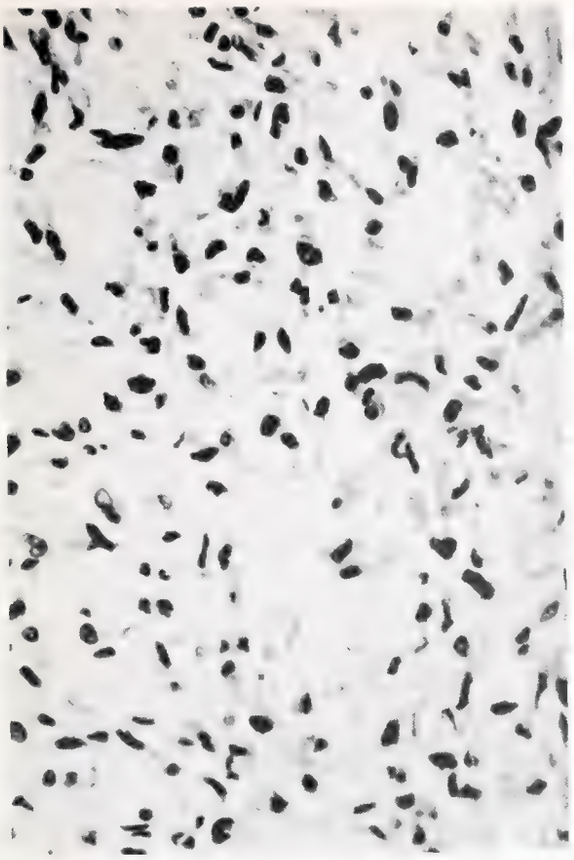
Case Report

A 41-year-old female drug addict had been seen five times in the Emergency Room during the year prior to her admission; her complaint was of leg pains. Because of her history of addiction, her complaints were thought to be an effort to obtain narcotics. No roentgenograms were made, but she was referred to the outpatient department. She did not keep her outpatient appointments. She was admitted to the hospital in November 1970 complaining of back and leg pain, headache, and stiff neck. The cerebrospinal fluid was grossly bloody, showed no increase in pressure, and had a xanthochromic supernatant. Over the next few days the patient became less responsive, responding only to pain, and then began to be more responsive on her fifth hospital day. Physical examination at that time revealed a stiff neck; obtundation; a sensory deficit from L-4 to S-5 on the right and S-2 through S-5 on the left; a weak rectal sphincter; and bilateral hip, knee, and ankle weakness with a right foot drop. Funduscopic examination showed no abnormalities. There were no cutaneous neurofibromas or cafe-au-lait spots.

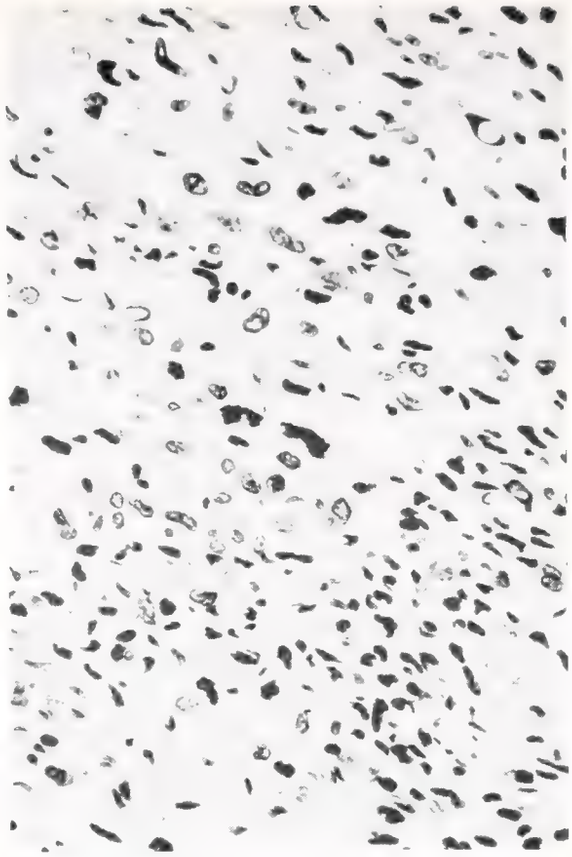
Laminograms of the lumbar spine revealed enlargement of the L-5 foramen. Total cerebral angiography and lumbar aortography showed no abnormalities. A myelogram, done via cysternal tap, revealed xanthochromic CSF and an intradural lumbar tumor.

At laminectomy, a malignant intradural tumor was found invading the conus and cauda equina from T-12 through S-2. This was subtotally excised, and the patient was treated with 3,000 R of cobalt irradiation. Microscopic examination of the tumor revealed a moderately cellular tumor composed of spindle-shaped and multipolar cells in a myxoid matrix. The nuclei were ovoid to spindly, rather hyperchromatic, and somewhat pleomorphic (Fig 1). The tumor had the appearance of a loose astrocytoma with microcystic degeneration, but reticulin stains revealed large numbers of wavy reticulin fibers intimately associated with the tumor cells.

Six months later the patient was admitted with septicemia and died the same day. Autopsy revealed the healed surgical defect of the laminae of T-12 to S-2 filled by meninges, hemorrhagic fluid, and tumor. The left lateral aspect of the body of the fifth lumbar vertebra was eroded by a gray-pink firm tumor which was adherent to the dura and had a small focus of calcification. The nerve roots of the cauda equina showed multiple areas of adhesions

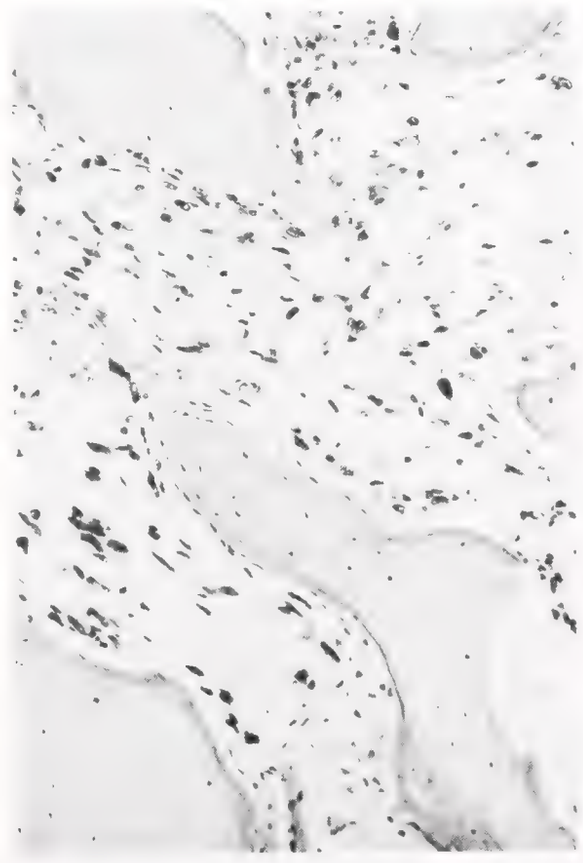


1. From the surgical specimen: Loose, moderately cellular tumor with stellate cells, nuclear pleomorphism and microcystic degeneration. Hematoxylin & eosin, X 300.



2. Autopsy specimen: This portion of the tumor is quite anaplastic without pathognomonic pattern. Hematoxylin & eosin, X 300.

3. A small bundle of cauda equina fibers shows neoplastic Schwann cells between nerve fibers. Hematoxylin & eosin, X 300.



4. Marrow space in body of fifth lumbar veretebra is invaded by small dark tumor cells. Hematoxylin & eosin, X 250.

and fusion as well as nodular thickening.

There was, in addition, acute purulent leptomeningitis, ventriculitis and evidence of cystitis, bladder stones, and acute pyelonephritis. Postmortem cultures of heart blood, spleen, urine, spinal fluid, and swabs from meningeal tissue all grew *Escherichia coli*. The cause of death was thought to be fulminating *E coli* septicemia and meningitis secondary to a urinary tract infection.

Sections of the residual spinal tumor mass showed some loose areas resembling the surgical specimen, but elsewhere the wavy arrangement of tumor cells closely imitated that of Schwann cells in normal peripheral nerves. Elsewhere, the tumor was much more cellular and anaplastic, the cells proliferating without any clear-cut pattern and with many mitotic figures present (Fig 2). Many nerve roots of the cauda equina appeared more cellular than normal, and on higher power neoplastic transformation of the normal Schwann cells of the roots could be observed (Fig 3). Sections of the eroded fifth lumbar vertebra showed dark staining tumor cells invading the marrow spaces (Fig 4).

References

1. Hook O, Lidvall H: Arteriovenous aneurysms of spinal cord: Report of 2 cases investigated by vertebral angiography. J Neurosurg 15:84-91, 1958.

2. Iraci G, et al: Intraspinal tumors of the cervical tract: A study of 68 cases. Internat Surg 46:154-167, 1966.

3. Prieto AJ, Canta RC: Spinal subarachnoid hemorrhage associated with neurofibroma of the cauda equina. J Neurosurg 27:63-64, 1967.

4. Walton JN: Subarachnoid hemorrhage of unusual etiology. Neurol 3:517-543, 1953.

5. Preston FW, Walsh WS, Clark TH: Cutaneous neurofibromatosis (von Recklinghausen's disease); clinical manifestations and incidence of sarcoma in 61 male patients. Arch Surg 64:813-827, 1952.

6. Fincher EF: Spontaneous subarachnoid hemorrhage of intradural tumors of lumbar sac. J Neurosurg 8:576-584, 1951.

7. Mendelssohn RA, Mona F: Spontaneous subarachnoid hemorrhage caused by ependymoma of filum terminale. J Neurosurg 15:460-463, 1958.

8. Nassar SI, Correll JN: Subarachnoid hemorrhage due to spinal cord tumors. Neurol (Minn) 18:87-94, 1968.

9. Bhandari Y: Subarachnoid hemorrhage due to cervical cord tumor in a child: Case report. J Neurosurg 30:749-751, 1969.

10. Falconer MA: Problems in neurosurgery, cauda equina tumors. Trans Med Soc London 82:126-138, 1966.

11. Henson RA, Croft PB: Spontaneous spinal subarachnoid hemorrhage. Quart J Med 25:53-66, 1958.

12. Vieta JO, Pack GT: Treatment of tumors of the peripheral nervous system, in: Pack GT, Ariel IM: Treatment of Cancers and Allied Diseases; Tumors of the Nervous System. vol 2. New York, Paul G Hoeber, 1959, pp 243-258.

13. Walton JN: Prognosis and management of subarachnoid hemorrhage. Canad Med Assoc J 165-175, 1955.

14. Rasmussen TB, Kernohan JW, Adson AW: Pathologic classification with surgical consideration of intraspinal tumors. Ann Surg 111:513-530, 1940.

15. D'Agostino AN, Soule EH, Miller RH: Primary malignant neoplasms of nerves (malignant neurilemmomas) in patients without manifestations of multiple neurofibromatosis (von Recklinghausen's disease). Cancer 16:1003-10014, 1963.

16. D'Agostino AN, Soule EH, Miller RH: Sarcomas of the peripheral nerves and somatic soft tissues in patients with mutiple neurofibromatosis (von Reckling hausen's disease). Cancer 16:1015-1027, 1963.

17. Stewart FW, Copeland MM: Neurogenic sarcoma Amer J Cancer 15:1235-1320, 1931.

18. Plotkin R, Ronthal M, Fromm C: Spontaneous spinal subarachnoid hemorrhage. Report of 3 cases. J Neurosurg 25:443-446, 1966.

19. Gautier-Smith PC: Clinical aspects of spinal neurofibromas. Brain 90:359-394, 1967.

20. Rubinstein LJ: Sarcomas of the nervous system, in: Minckler J: Pathology of the Nervous System. New York, McGraw-Hill, 1971, p 2160.

21. Barrett R, Cramer F: Tumors of the peripheral nerves and so-called "ganglia" of the peroneal nerve Clin Orthop 27:135-146, 1963.

22. Broager A: Spinal neurinoma: A clinical study. Acta Psychiat Neurol Scand (Suppl 85), 1953, pp 1-241

23. Hamby WB: Spontoneous subarachnoid hemorrhage of aneurysmal origin: Factors of influencing prognosis. JAMA 136:522-527, 1948.

24. Lewis D, Hart D: Tumors of peripheral nerves Ann Surg 92:961-983, 1930.

25. Minckler J: Supporting cell tumors of peripheral nerves, in: Minckler J: Pathology of the Nervous System. New York ,McGraw-Hill, 1971, pp 2093-2114.

26. Russell D, Rubinstein L: The pathology of tumors of the nervous system. Baltimore, Williams & Wilkins Co, 1971, pp 284-294.

27. Sahs AL, Perret GE, Lockshey HB, et al: Intracranial aneurysms and subarachnoid hemorrhage. Philadelphia, JB Lippincott, 1969, p 221.

28. Stout AP, Carson W: The peripheral manifestations of the specific nerve sheath tumor (neurilemmoma). Amer J Cancer 24:751-796, 1935.

29. Walton JN: Subarachnoid hemorrhage. London, E & S Livingstone Ltd, 1956, p 350.

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Precautions: Do periodic serum electrolyte and BUN determinations. Do periodic hematologic studies in cirrhotics with splenomegaly. Antihypertensive effects may be enhanced in postsympathectomy patients. The following may occur: hyperuricemia and gout, reversible nitrogen retention, decreasing alkali reserve with possible metabolic acidosis, hyperglycemia and glycosuria (diabetic insulin requirements may be altered), digitalis intoxication (in hypokalemia). Use cautiously in surgical patients. Concomitant use with antihypertensive agents may result in an additive hypotensive effect.

Adverse Reactions: Muscle cramps, weakness, dizziness, headache, dry mouth; anaphylaxis; rash, urticaria, photosensitivity, purpura, other dermatological conditions; nausea and vomiting (may indicate electrolyte imbalance), diarrhea, constipation, other gastrointestinal disturbances. Rarely, necrotizing vasculitis, paresthesias, icterus, pancreatitis, and xanthopsia have occurred with thiazides alone.

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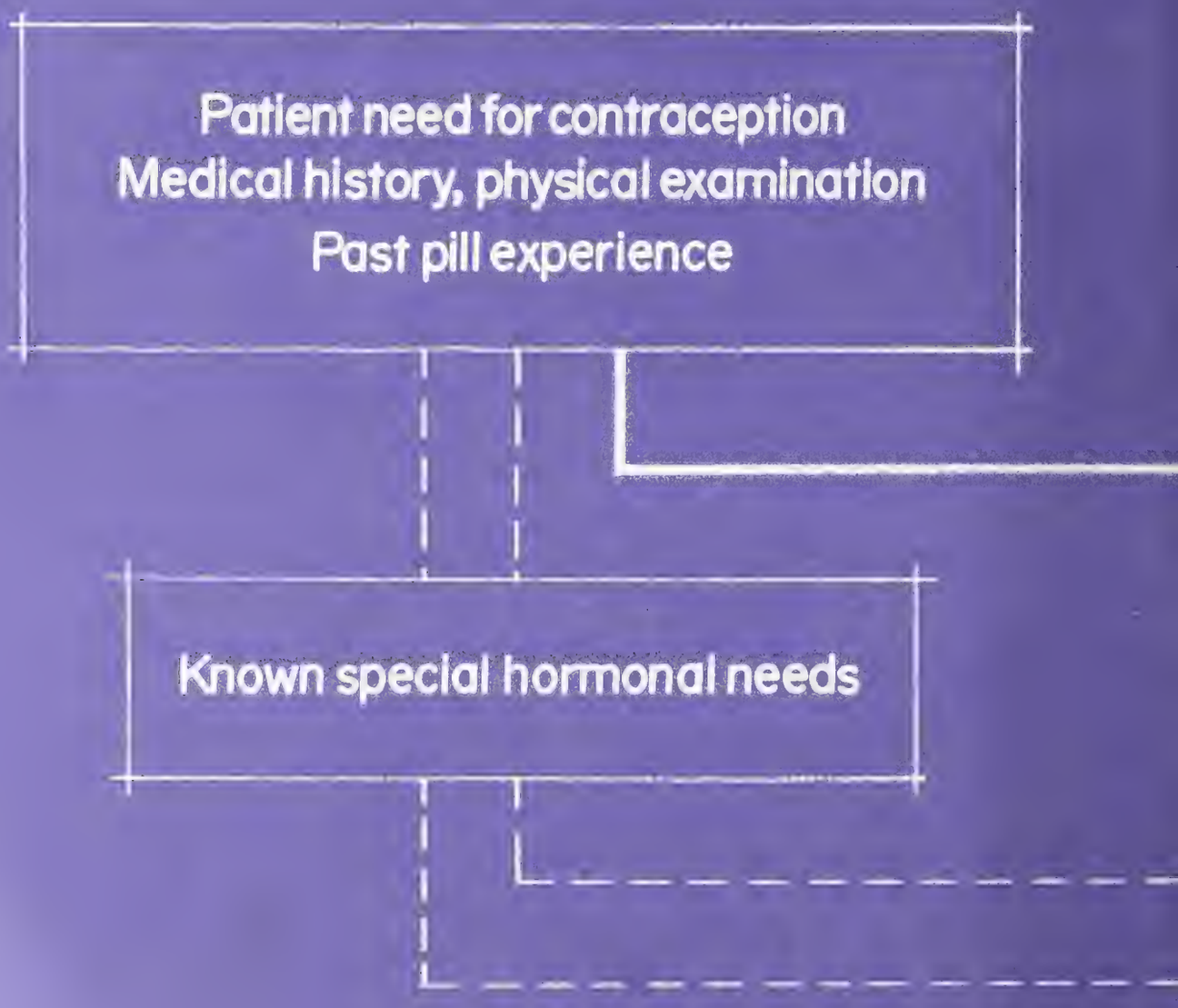

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An increased risk of thromboembolic disease associated with the use of hormonal contraceptives has now been shown in studies conducted in both Great Britain and the United States. Other risks, such as those of elevated blood pressure, liver disease and reduced tolerance to carbohydrates, have not been quantitated with precision.

Long-term administration of both natural and synthetic estrogens in subprimate animal species in multiples of the human dose increases the frequency of some animal carcinomas. These data cannot be transposed directly to man. The possible carcinogenicity due to the estrogens can be neither affirmed nor refuted at this time. Close clinical surveillance of all women taking oral contraceptives must be continued.

Indication—Ovulen and Demulen are indicated for oral contraception.

Contraindications—Patients with thrombophlebitis, thromboembolic disorders, cerebral apoplexy or a past history of these conditions, markedly impaired liver function, known or suspected carcinoma of the breast, known or suspected estrogen-dependent neoplasia and undiagnosed abnormal genital bleeding.

Warnings—The physician should be alert to the earliest manifestations of thrombotic disorders (thrombophlebitis, cerebrovascular disorders, pulmonary embolism and retinal thrombosis). Should any of these occur or be suspected the drug should be discontinued immediately.

Retrospective studies of morbidity and mortality conducted in Great Britain and studies of morbidity in the United States have shown a statistically significant association between thrombophlebitis, pulmonary embolism, and cerebral thrombosis and embolism and the use of oral contraceptives. There have been three principal studies in Britain[1-3] leading to this conclusion, and one[4] in the United States. The estimate of the relative risk of thromboembolism in the study by Vessey and Doll[3] was about sevenfold, while Sartwell and associates[4] in the United States found a relative risk of 4.4, meaning that the users are several times as likely to undergo thromboembolic disease without evident cause as nonusers. The American study also indicated that the risk did not persist after discontinuation of administration and that it was not enhanced by long-continued administration. The American study was not designed to evaluate a difference between products. However, the study suggested that there might be an increased risk of thromboembolic disease in users of sequential products. This risk cannot be quantitated, and further studies to confirm this finding are desirable.

Discontinue medication pending examination if there is sudden partial or complete loss of vision, or if there is a sudden onset of proptosis, diplopia or migraine. If examination reveals papilledema or retinal vascular lesions medication should be withdrawn.

Since the safety of Ovulen and Demulen in pregnancy has not been demonstrated, it is recommended that for any patient who has missed two consecutive periods pregnancy should be ruled out before continuing the contraceptive regimen. If the patient has not adhered to the prescribed schedule the possibility of pregnancy should be considered at the time of the first missed period.

A small fraction of the hormonal agents in oral contraceptives has been identified in the milk of mothers receiving these drugs. The long-range effect to the nursing infant cannot be determined at this time.

Precautions—The pretreatment and periodic physical examinations should include special reference to the breasts and pelvic organs, including a Papanicolaou smear since estrogens have been known to produce tumors, some of them malignant, in five species of subprimate animals. Endocrine and possibly liver function tests may be affected by treatment with Ovulen or Demulen. Therefore, if such tests are abnormal in a patient taking Ovulen or Demulen, it is recommended that they be repeated after the drug has been withdrawn for two months. Under the influence of progestogen-estrogen preparations preexisting uterine fibromyomas may increase in size. Because these agents may cause some degree of fluid retention, conditions which might be influenced by this factor, such as epilepsy, migraine, asthma, cardiac or renal dysfunction, require careful observation. In breakthrough bleeding, and in all cases of irregular bleeding per vaginam, nonfunctional causes should be borne in mind. In undiagnosed bleeding per vaginam adequate diagnostic measures are indicated. Patients with a history of psychic depression should be carefully observed and the drug discontinued if the depression recurs to a serious degree. Any possible influence of prolonged Ovulen or Demulen therapy on pituitary, ovarian, adrenal, hepatic or uterine function awaits further study. A decrease in glucose tolerance has been observed in a significant percentage of patients on oral contraceptives. The mechanism of this decrease is obscure. For this reason, diabetic patients should be carefully observed while receiving Ovulen or Demulen therapy. The age of the patient constitutes no absolute limiting factor, although treatment with Ovulen or Demulen may mask the onset of the climacteric. The pathologist should be advised of Ovulen or Demulen therapy when relevant specimens are submitted. Susceptible women may experience an increase in blood pressure following administration of contraceptive steroids.

Adverse reactions observed in patients receiving oral contraceptives—A statistically significant association has been demonstrated between use of oral contraceptives and the following serious adverse reactions: thrombophlebitis, pulmonary embolism and cerebral thrombosis.

Although available evidence is suggestive of an association, such a relationship has been neither confirmed nor refuted for the following serious adverse reactions: neuro-ocular lesions, e.g., retinal thrombosis and optic neuritis.

The following adverse reactions are known to occur in patients receiving oral contraceptives: nausea, vomiting, gastrointestinal symptoms (such as abdominal cramps and bloating), breakthrough bleeding, spotting, change in menstrual flow, amenorrhea during and after treatment, edema, chloasma or melasma, breast changes (tenderness, enlargement and secretion), change in weight (increase or decrease), changes in cervical erosion and cervical secretions, suppression of lactation when given immediately post partum, cholestatic jaundice, migraine, rash (allergic), rise in blood pressure in susceptible individuals and mental depression.

Although the following adverse reactions have been reported in users of oral contraceptives, an association has been neither confirmed nor refuted: anovulation post treatment, premenstrual-like syndrome, changes in libido, changes in appetite, cystitis-like syndrome, headache, nervousness, dizziness, fatigue, backache, hirsutism, loss of scalp hair, erythema multiforme, erythema nodosum, hemorrhagic eruption and itching.

The following laboratory results may be altered by the use of oral contraceptives: hepatic function: increased sulfobromophthalein retention and other tests; coagulation tests: increase in prothrombin, Factors VII, VIII, IX and X; thyroid function: increase in PBI and butanol extractable protein bound iodine, and decrease in T^3 uptake values; metyrapone test and pregnanediol determination.

References: 1. Royal College of General Practitioners: Oral Contraception and Thrombo-Embolic Disease, J. Coll. Gen. Pract. *13*:267-279 (May) 1967. **2.** Inman, W. H. W., and Vessey, M. P.: Investigation of Deaths from Pulmonary, Coronary, and Cerebral Thrombosis and Embolism in Women of Child-Bearing Age, Brit. Med. J. *2*:193-199 (April 27) 1968. **3.** Vessey, M. P., and Doll, R.: Investigation of Relation Between Use of Oral Contraceptives and Thromboembolic Disease. A Further Report, Brit. Med. J. *2*:651-657 (June 14) 1969. **4.** Sartwell, P. E.; Masi, A. T.; Arthes, F. G.; Greene, G. R., and Smith, H. E.: Thromboembolism and Oral Contraceptives: An Epidemiologic Case-Control Study, Amer. J. Epidem. *90*:365-380 (Nov.) 1969.

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The effect of thiazide diuretics on placental function

E. S. Shoemaker, MD; N. F. Gant, MD; J. D. Madden, MD; and P. C. MacDonald, MD

Pregnancy complicated by hypertensive disorders represents a serious risk in terms of fetal outcome. The presence of essential hypertension or pregnancy-induced hypertension, or both, in patients at Parkland Memorial Hospital results in a perinatal mortality of approximately 80 per 1,000, or two and one-half times the control rate. This problem is even more significant if one realizes that pregnancy-induced hypertension is almost uniquely a disease of the primigravid patient; and with a controlled population with zero population growth, one-half of all pregnant women will be primigravidas. Additionally, other patients with underlying vascular disease, chronic hypertension, diabetes, and renal disease will constitute an increase in both percentage and absolute number of pregnancies. Thus the obligation of medicine to insure the best possible pregnancy product is obvious.

In evaluating management of hypertensive disorders of pregnancy, there are two basic problems which must be defined. The first problem to define is, of course, the sequence of events leading to a compromise in uteroplacental function, that is, the pathophysiology of the untreated disease state. The second feature which must be evaluated is the effect on uteroplacental function of various pharmacologic agents which are currently used to treat these disorders.

In recent years this laboratory (The University of Texas Southwestern Medical School, Department of Obstetrics and Gynecology) has developed techniques for monitoring some of the parameters of the dynamics of uteroplacental blood flow or metabolism, or both.[1,2]

Ten years ago this laboratory established that the placenta is an incomplete endocrine organ.[3-6] Specifically, the placenta does not have the capability for *de novo* synthesis of steroids. Rather, it relies upon the circulation to it of preformed steroidal precursors. In the case of placental production of estrogen, the precursors arise in both the maternal and fetal plasma. Specifically, the fetal and maternal adrenal cortex produce dehydroisoandrosterone sulfate (DS) which, when circulated to the placenta, is efficiently utilized for the production of estradiol. In addition, DS arising in the fetal and maternal compartments is subject to 16α hydroxylation to form 16α-hydroxy dehydroisoandrosterone sulfate (16OHDS). This compound, when circulated to the placenta, is efficiently converted to estriol.[2] In a continuing study of the metabolism of DS throughout the course of pregnancy, it has been determined that the *rate* of metabolism of this compound is markedly increased during pregnancy. Whereas the metabolic clearance rate (MCR) of DS in nonpregnant individuals is approximately 6-8 liters per day, the rate of its metabolism during pregnancy progressively increases such that it may reach 100 liters or more per day in term pregnancy.[1] This increase in the rate of metabolism of DS is caused by the rapid irreversible metabolism of DS to estradiol in the placenta and via the rapid 16α hydroxylation of DS in the maternal compartment.[1,2] Thus, near term, some 70-90% of DS suffers its irreversible metabolic fate via these two pathways.

By simultaneously measuring the MCR_{DS}, and the fraction of that metabolism which occurs via each of the metabolic

Supported in part by the Lalor Foundation and Training Grant #1T01HD00256.
Project was done during Elective Period, Nov 1972-Jan 1973, at The University of Texas Southwestern Medical School. Drs. Gant, Madden, and MacDonald served as faculty advisors.

fates which are irreversible, the volume of plasma totally cleared per unit of time via each of these pathways can be determined. Thus, a sequential study of the placental clearance of maternal plasma DS via the irreversible metabolism to estradiol (PCDSE2) has shown that there is a gradual increase in the placental clearance in normal pregnancy from .07 ml at six weeks pregnancy to approximately 30 ml per minute at term.[7] The factors which likely determine the rate of DS clearance from maternal plasma via placental conversion to estradiol are: (1) the integrity of the enzyme systems responsible for the conversion of $DS \rightarrow D \rightarrow A \rightarrow E^1 \rightleftarrows E2$, and (2) the rate of delivery of DS to the placenta, that is, uterine blood flow and the rate of uptake of DS by the trophoblastic cells. Placental uptake appears to be dependent upon simple diffusional transport, since earlier studies show that the extent of conversion of exogenous DS to E2 is proportional to the placental mass and the amount of DS available for conversion, that is, DS production rate.[5] Physiologic alterations associated with disease processes which either reduce uterine blood flow or the number of viable trophoblastic cells would lead to changes in the placental clearance rate of DS that could be detected by appropriate experimental designs. The same is also true of pharmacologic manipulations of these parameters of placental function.

It has been observed previously in a prospective study of young teenage primigravid patients that the placental clearance of DS gradually increases to term in those pregnancies which remain normal. Alternatively, in pregnancies complicated by pregnancy-induced hypertension, there is a decline in the placental clearance of maternal plasma DS which occurs prior to the onset of clinical symptoms and indeed is predictive of the development of pregnancy-induced hypertension.[2]

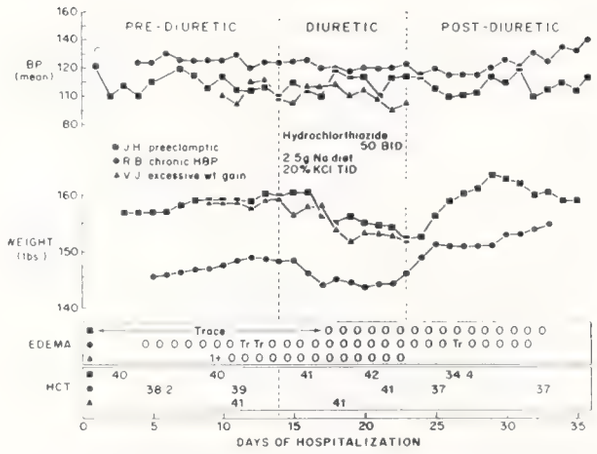
In the present study the effects of thiazide diuretics and sodium restriction on placental function have been measured. Specifically, placental clearance of DS (PCDSE2) was measured before and after a 2.5 gm per day sodium diet and hydrochlorthiazide 50 mg twice a day for eight days in three patients. One patient had preeclampsia, one had essential hypertension, and one was evaluated because of excessive weight gain and edema. Additionally, renal function was evaluated by measurement of serial blood urea nitrogen determinations, electrolytes, and creatinine clearances prior to and after the institution of the therapeutic measures just mentioned. In all three patients, after eight days of sodium restriction and thiazide diuretic therapy, placental clearance of DS was decreased from 44 to 58%. A parallel decrease in glomerular filtration rate as measured by endogenous creatinine clearance was also noted in all three subjects; the decreases in these parameters ranged from 10% to a maximum of 47%.

Materials and Methods

Three hospitalized pregnant patients, at term, were chosen for study. In all three, a baseline determination of placental clearance of DS was determined. In addition, baseline hematocrit, blood urea nitrogen, and electrolyte values were also determined. Also, endogenous creatinine clearances were calculated from the 24-hour urine samples. Following this, the patients were placed on a 2.5 gm sodium diet and received 50 mg of hydrochlorthiazide twice daily for eight days. A repeat deter-

mination of all the previously listed values was then done between days five and eight while patients were still on the low salt diet and still receiving the thiazide diuretic. On the ninth day, the patients were given a diet of their own choice, and diuretic therapy was discontinued. In the patient with preeclampsia, all the studies (except the extent of conversion of DS to estradiol) were repeated between five and seven days after cessation of therapy.

Placental clearance of DS (PCDSE2) is determined in the following manner: Following the simultaneous injection of ^{14C}DS, and ^{3}H-estradiol as a single shot, blood is collected after one, two, three, and four hours. In addition, urine is collected for three days. From the plasma samples, the concentration of ^{14C}DS is determined. From the disappearance of the ^{14C}DS, the apparent volume of distribution, the t ½ of DS and the metabolic clearance rate of DS is calculated.[1] From the 72-hour urine specimen, urinary estradiol (glucuronoside) is isolated and the tritium/carbon-14 ratio of estradiol is determined. From the tritium/carbon-14 ratio of the isolated metabolite and that



1. The clinical results of sodium restriction and thiazide diuretic therapy on mean blood pressure, weight, edema, and hematocrit. The study is divided into three phases: prediuretic, diuretic, and postdiuretic.

2.

Patient	Clinical Condition	MCR*$_{DS}$ (Liters/24 hours) Before Diuretics	After Diuretics	%Δ	Recovery	AVD†$_{DS}$ (ml) Before Diuretics	After Diuretics	%Δ	Recovery
JH	Preeclampsia	52.6	37.9	↓28	134.4	8,196	1,666	↓79.6	10,750
RB	Chronic hypertension	165.4	52.0	↓70	ND‡	13,888	7,692	↓44.6	ND
VJ	Excessive weight gain	46	22.4	↓51	ND	8,000	6,536	↓18.3	ND

*Metabolic clearance rate of dehydroisoandrosterone sulfate
†Apparent volume of distribution of dehydroisoandrosterone sulfate
‡Not done

of the injected tracers, the fraction of DS converted irreversibly to E2 in the placenta can be calculated.[3] The amount of radioactivity required for each study is very small ($<3\mu c$), and little or no radioactivity reaches the fetus.[2] The product of the metabolic clearance rate and the transfer constant of DS→E2 ($[P]\ ^{DSE2}_{BU}$) equals the rate of clearance via the placenta per unit time.

Therefore:

$$PCDS_{E2}=MCR_{DS} \cdot [P]\ ^{DSE2}_{BU}$$

which may be converted to ml/min of maternal plasma totally cleared via each pathway.

Patient Description

JH is a 17-year-old Black primigravid patient who was admitted to Parkland Memorial Hospital when approximately 35 weeks pregnant with a blood pressure of 145/100 mm Hg, normal deep tendon reflexes, and a trace of pretibial edema. The patient had been followed in the clinic throughout pregnancy; this elevation in blood pressure represented an increase in diastolic blood pressure of 30 mm Hg and an increase in systolic blood pressure of 35 mm Hg. There was no proteinuria present. She was admitted for observation and had remained in the hospital at bedrest on normal diet for approximately ten days prior to the beginning of these studies.

RB is a 17-year-old Black primigravid patient who was admitted to Parkland Hospital two times during her present pregnancy for elevated blood pressures. The patient was first seen, when 20 weeks pregnant, in the antepartum clinic with a blood pressure of 160/102 mm Hg. There was no previous documentation of chronic hypertension, but family history revealed that one brother, two sisters, and both parents had chronic hypertension. The patient was asymptomatic and funduscopic examination revealed no segmental arteriolar spasm. She was admitted after approximately 32 weeks' pregnancy. At this time, the patient's blood pressure was 150/110 mm Hg, and she was placed at bedrest and given a normal diet. The patient had been hospitalized for approximately eight days prior to the onset of the present study. At this time her blood pressure was 150/100 mm Hg, and she had gained approximately 4 lb during the previous week. She had a trace of edema, but

3.

Patient	Clinical Condition	% DS → E-2 * Before Diuretics	% DS → E-2 * After Diuretics	% Δ	$PCDS_{E2}$† (ml/min) Before Diuretics	$PCDS_{E2}$† (ml/min) After Diuretics	% Δ
JH	Preeclampsia	25.9	15.14	↓42	9.48	3.98	↓58
RB	Chronic hypertension	26.8	26.47	⟷	30.8	9.4	↓69
VJ	Excessive weight gain	22.4	29.8	↑26	7.14	4.76	↓40

*Blood to urinary conversion of DS to estradiol glucuronide $[p]\ ^{DS \rightarrow E2}_{BU}$

†$PCDS_{E2}$ Placental clearance of DS to estradiol glucuronide

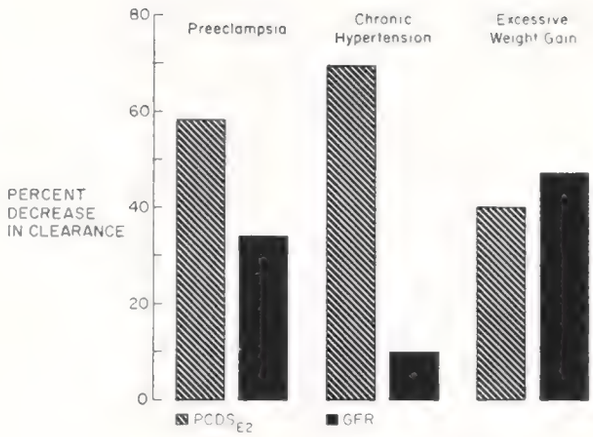
no proteinuria. During the two months following the patient's delivery, she had remained hypertensive with blood pressure levels in the range of 90 to 100 mm Hg.

VJ is an 18-year-old Black primigravid patient who was admitted to Parkland Memorial Hospital at 36 weeks' pregnancy for excessive weight gain and edema. The patient had a documented weight gain during this pregnancy of 43 lbs, and a 5-lb weight gain during the week prior to admission. On admission the patient was normotensive (blood pressure 120/80 mm Hg), and was totally asymptomatic except for facial puffiness and swelling of the hands and legs. She did not exhibit proteinuria. She was studied two days after admission.

All patients delivered normal viable infants without evidence of growth retardation and without evidence of any fetal compromise. However, no patient delivered until two weeks after cessation of sodium restriction and diuretic therapy.

Results

The clinical results observed in these three patients are graphically represented



5. The percent decrease in PCDSE2 and GFR following sodium restriction and diuretic therapy are shown for preeclampsia, chronic hypertension, and excessive weight gain. PCDSE2 is represented by the striped bars and GFR is represented by the solid bars.

4.

Patient	Clinical Condition	Creatinine Clearance (ml/min) Before Diuretics	After Diuretics	%Δ	Recovery	Blood Urea Nitrogen (mg/100 ml) Before Diuretics	After Diuretics	%Δ	Recovery
JH	Preeclampsia	98.1	64 8	↓33.9	103	5	14	↑280	7
RB	Chronic hypertension	111	97.1	↓10	108	5	16	↑320	6
VJ	Excessive weight gain	164	86	↓47	ND	10	10	⟷	ND

Not done

in Fig 1, which shows the three important time periods: prediuretic, diuretic, and postdiuretic phases. The mean blood pressure in all three subjects did not change significantly in the prediuretic and diuretic phases; however, there was a gradual increase in mean blood pressure in RB, who had chronic hypertension. The diastolic pressure increased in 118 mm Hg two weeks after this study, and it was believed that this was caused by superimposed preeclampsia.

All patients lost weight as expected while on therapy, and two patients (JH and RB) showed a definite rebound in weight when treatment was discontinued. The third patient, VJ, was discharged from the hospital after cessation of therapy and no follow-up weights or studies were obtained.

Alterations in laboratory and clearance studies are shown in Figs 2-5. In Fig 2, it is apparent that the metabolic clearance rate of DS (MCR_{DS}) was decreased in all three subjects, ranging from a decrease of 28 to 70%. The same is true of the apparent volume of distribution of DS (AVD_{DS}). The decrease here represented a decrease of 18.3 to 79.6%. Following the discontinuation of therapy, JH (preeclampsia) demonstrated a rebound with an increase in MCR_{DS} to 134.4 liters/24 hours versus a 52.6 liters/24 hours value prior to diuretics. The same was observed for the AVD_{DS} which increased to 10,750 ml versus a pretreatment value of 8,196 ml. Although not conclusive, this is strong evidence that the decrease in MCR_{DS} and AVD_{DS} was due to the sodium restriction and diuretic therapy, and did not represent a decrease in these values due to a continuation of the disease process itself.

Fig 3 represents the percent of DS converted in the placenta to E2 (QDS→E2) and the placental clearance of DS→E2 (PCDSE2) in ml/minute. Although the QDS→E2 was highly variable, the PCDSE2 was universally decreased with a range of 40 to 69% with the decrease greater in the chronically hypertensive patient and least in the patient with excessive weight gain. These same results are graphically represented in Fig 5. This figure also demonstrates that decreases in PCDSE2 were not always accompanied by equal decreases in creatinine clearance. For example, the greatest decrease in PCDSE2 was in the chronic hypertension patient with a decrease of 69% while the decrease in creatinine clearance was only 10%, the smallest decrease noted in creatinine clearance.

Parallel studies of renal function were conducted during this study and are summarized in Fig 4. In all instances, the glomerular filtration rate (GFR) as measured by endogenous creatinine clearance was decreased; and in the two patients studied after therapy, the GFR rebounded to pretreatment values. This observation again suggests that the decreases observed during therapy represented drug effects and not a worsening of the disease process. In two of the three subjects, the decrease in GFR was accompanied by an evaluation of the blood urea nitrogen level.

There were no consistent changes noted in serum electrolytes and creatinine. The hematocrit changes were minimal but did appear to increase slightly during therapy and then decrease in the postdiuretic period (Fig 1).

Discussion and Conclusion

Diuretics and sodium restriction decreased PCDSE2 in all subjects studied. Additionally, there was a similar decrease in GFR observed in all subjects studied. These

decreases apparently represented an effect of the therapeutic measures and not the continuation and worsening of the disease itself. From previous studies, the normal PCDSE2 has been shown to be in the range of 25 to 30 ml/minute at term. Similar values have also been obtained in patients with essential hypertension without superimposed preeclampsia.[7] Thus, from this preliminary study, it would appear that the utilization of sodium restriction and thiazide diuretics are detrimental to the PCDSE2 and GFR in the clinical situations studied.

In preeclampsia, a previous prospective study has shown PCDSE2 to increase progressively to 22 ml/minute at 36 weeks' gestation, then decrease to 10 ml/minute at 38 weeks' gestation with the onset of hypertension.[7] The addition of diuretics and sodium restriction in such a case would seem to be contraindicated from the preliminary data observed in the one preeclamptic patient in this study, in whom the PCDSE2 decreased with diuretics from 9.48 ml/minute to 3.98 ml/minute, a decrease of 58%.

Despite the well documented decrease in PCDSE2, two questions still remain to be answered. The first question is whether renal or sodium "escape" would occur after prolonged diuretic therapy with a subsequent return to normal in GFR, weight gain, and PCDSE2. The final and most important question remaining is whether the PCDSE2 accurately reflects perfusion of the uteroplacental complex or not. At present, studies are in progress to answer both questions.

Acknowledgements

Miss Mazie Calvert and Mr. Mark Jones provided expert technical assistance, and all the house officers of the Department of Obstetrics and Gynecology at Parkland Memorial Hospital helped in patient selection and care. Mrs. Marta Webb assisted in the preparation of the manuscript.

References

1. Gant NF, Hutchinson HT, Siiteri PK, et al: Study of the metabolic clearance rate of dehydroisoandrosterone sulfate in pregnancy. Am J Obstet Gynecol 111:555-563, 1971.

2. Gant NF, Madden JD, Siiteri PK, McDonald PC: Excerpta Medica International Cong Series, 1972 (In Press).

3. Siiteri, PK, MacDonald PC: Steroids 2:713, 1963.

4. Siiteri PK, MacDonald PC: Placental estrogen biosynthesis during human pregnancy. J Clin Endocrinol 26:751-761, 1966.

5. MacDonald PC, Siiteri PK: Origin of estrogen in women pregnant with an anencephalic fetus. J Clin Invest 44:465-474, 1965.

6. MacDonald PC, Siiteri PK: Study of estrogen production in women with hydatidiform mole. J Clin Endocrinol 24:685-690, 1964.

7. Madden JD, Gant NF, Siiteri PK, MacDonald PC; Proc Soc Gyn Invest, 1973.

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Dr. Shoemaker is the first place winner in the *Texas Medicine* award competition for excellence in medical writing.

Anencephaly: A review

Michael H. Malloy, MD

Congenital malformations are one of the most significant causes of perinatal mortality. Despite an overall decrease in perinatal mortality, the incidence of congenital malformations has remained relatively stable. This is, however, quite explainable in that anatomical malformations occur early in pregnancy, which makes prevention extremely difficult because no visible warning is given. We thus face the challenge of understanding the causation of anatomic malformations and of becoming able to manipulate cellular proliferation in utero.

Perhaps one of the most blatant mistakes in development resulting in a congenital malformation is illustrated by the following case report of the birth of an anencephalic infant. Defective closure of the neural plate of the developing embryo at three to four weeks' gestation results in partial development of the unfused brain followed by degeneration; the calvarium shows incomplete development; and the facial features and auricular development are affected to a variable degree and a cleft palate may develop.

Case Report

On Feb 27, 1973, a 5 lb 8 oz female was born to a 20-year-old woman, gravida 3, para 3, living children 3. There had been no complications of the pregnancy and the mother had begun spontaneous labor approximately 12 hours earlier. Membranes ruptured spontaneously and the child was in the vertex presentation. There was no difficulty during delivery. On presentation the infant was noted to have a grossly malformed head and to be cyanotic following a few gasping breaths. No heroic measures were instituted in resuscitation. About 24 hours after birth, the child died in respiratory arrest. Autopsy revealed absence of cerebrum and cerebellum bilaterally; absence of pituitary gland; absence of frontal, parietal, and temporal skull bones bilaterally; extremely small adrenal glands; and deep depression of the hard palate.

Several factors are associated with the occurrence of anencephaly. Barnett[1] reports that anencephaly occurs with a frequency of between 0.1 to 6.7/1,000 births, making it the most common central nervous system malformation incompatible with life. Results of studies done to establish the etiology of anencephaly have suggested a variety of associated clinical facts, but a specific cause has not been identified. Findings associated with the occurrence of anencephaly are:

1. Numbers and incidence per 1,000 total births of anencephalic stillbirths by maternal parity and country, 1965-1967 (from Elwood[2]).

	England and Wales		Scotland		Northern Ireland		Irish Republic	
Parity	No.	Rate	No.	Rate	No.	Rate	No.	Rate
0	1624	1.9	265	2.8	88	3.0	101	2.2
1	951	1.3	161	2.0	55	2.1	49	1.3
2	571	1.4	109	2.2	38	2.2	49	1.6
3	343	1.8	70	2.7	29	2.5	43	1.8
4	187	2.1	35	2.6	19	2.7	22	1.3
5	110	2.4	28	3.9	16	3.5	28	2.4
6	29	1.2 } 1.9	13	3.4 } 3.3	15	5.3 } 3.6	16	2.0 } 1.9
7+	36	1.3	18	4.2	21	4.0	32	1.9
All parities	3851	1.6	699	2.5	281	2.7	340	1.8

Incidence and Recurrence Rate: Although there is a greater chance of anencephaly recurring in the same family, there is no statistical evidence for its predictability.

Geographic Incidence: Studies have shown a greater incidence per thousand births in certain areas of the world. Ireland, especially, has shown an incidence of 3.0 anencephalics/1,000 births.[4] Studies by Renwick have attempted to correlate this increased incidence with the occurrence of potato blight in Ireland.[4]

Socioeconomic Status: Anencephaly occurs more frequently in urban areas and in lower-income families.[4]

Seasonal Variation: A higher incidence of winter births of anencephalics has been reported.[2,4]

Sex: There is an excess of female anencephalics (2.3:1).

Parity: Reports show a greater incidence of anencephalics born to primiparous women and to women of parity greater than 2 (Fig 1).

Maternal Age: Increased incidence of anencephalic births to women less than 20 years old and greater than 30 years old has been noted (Fig 2).

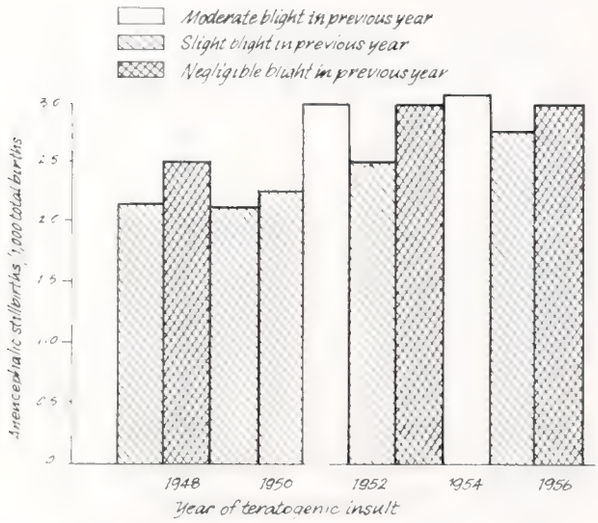
Blood Grouping: Some investigators

Geographical Area	1 Per Capita Consumption of Potatoes (kg/wk)	2 Crude Blight Score	3 Anencephalic Births per 1,000 Total Births	4 Equivalent ASB Births per 1,000 Total Births
England:				
Northern	2.24	+	2.1	4.2
Yorkshire	1.99	+	1.8	3.6
North-western	2.01	++	2.5	5.0
East Midland	1.90	++	2.0	4.0
West Midland	2.07	++	1.8	3.6
East Anglia	1.73	+	1.3	2.6
South-eastern	1.78	+	1.3	2.6
South-western	1.97	+++	1.8	3.6
Wales	2.38	+++	2.9	5.8
Scotland:				
Northern	1.87	+	2.1	4.2
Southern	1.87	++	2.9	5.8
Northern Ireland	3.49	+++	3.6	7.2
Irish Republic:				
Leinster	3.65	+++	3.0	6.0
Munster	3.65	+++	2.0	4.0
Connacht	3.65	+++	1.6	3.2
Ulster (part of)	3.65	+++	1.1	2.2

3. Potato consumption, prevalence of blight, and incidence of anencephalic births according to region (from Renwick[4]).

2. Maternal age in cases of anencephaly (from Elwood[2]).

Maternal age (years)	England and Wales		Scotland		Northern Ireland		Irish Republic	
	No.	Rate	No.	Rate	No.	Rate	No.	Rate
<20	523	2.2	87	3.1	17	2.4	18	3.4
20—	1406	1.6	232	2.4	79	2.4	59	1.7
25—	1127	1.5	204	2.3	78	2.7	95	1.8
30—	638	1.5	114	2.2	43	2.3	81	1.7
35—	379	1.8	77	2.9	49	4.3	58	1.7
40+	117	1.9 (1.9)	31	4.0 (3.2)	15	3.8 (4.2)	29	1.9 (1.8)
All Ages	4190	1.6	745	2.5	281	2.7	340	1.8



4. Incidence of anencephalic stillbirths per 1,000 total births in Scotland, according to year of presumed teratogenic insult (Standard error 0.15-0.18 per 1,000) (from Renwick[4]).

have noted an increase in the occurrence of Type O blood group in the mothers of anencephalics.[3]

Hydramnios: This is a significant finding in anencephalics, and is reported in 9 of 16 cases by Mufarrij.[3]

Postmaturity: This is noted by Mufarrij in 2 of 16 cases.[3]

Potato Blight: A British study (Renwick) has attempted to implicate a toxin, solanidine—a steroid alkaloid produced by the potato in response to potato blight—in the etiology of anencephaly. Studies by Nishie, Gumbmann, and Keyl have shown that this toxin is lethal to chick embryos, but as of yet no data exists incriminating solanidine as a teratogen of the central nervous system. Renwick argues his position, however, by accumulating surveys as to the occurrence of epidemics of potato blights and an increased incidence of anencephaly in the following year; and by surveying the geographical distribution of epidemics of potato blight and attempting to correlate a similar higher incidence of anencephaly.

Renwick has also attempted to explain events associated with anencephaly on the basis of a potato toxin. He explains seasonal occurrence of anencephaly in the winter

5. Incidence of anencephaly at The University of Texas Medical Branch since 1960.

Sex	Wt.	Birth Date	Home	Maternal Age, Parity	Associated Findings
F	2 lb, 5 oz	5-12-61	Galveston	28 years G7, P4, Ab2	32 weeks' gestation polyhydramnios
M	4 lb, 11 oz	6-20-62	Port Arthur	25 Years G4, P2, Ab1	
F	2 lb, 7 oz	1-29-63	Galveston	24 years G5, P2, Ab2, Sb1	32 weeks' gestation
F	3 lb, 12 oz	12-7-64	McAllen	35 years G1, P1	40 weeks' gestation. Patient lived; described as anencephalic with cleft lip and palate; last seen when 2 years old
M	4 lb, 8 oz	2-26-70	Galveston	26 years G1, P1	Polyhydramnios
F	5 lb, 8 oz	2-27-73	Galveston	20 years G3, P3, Lc2	

months on the premise that potatoes eaten in May have higher levels of solanidine, thus having a teratogenic effect on a fetus that will be delivered in the winter months.

Renwick seemingly goes to extremes in trying to validate his hypothesis and, on the basis of hard data, seems to be lacking enough to substantiate his theory. As yet the toxin solanidine has not even been proven to be teratogenic.[4]

Review of Hospital Records, 1960-1973

The incidence of anencephaly at The University of Texas Medical Branch at Galveston is presented in Fig 5. The data are accumulated from the coded cases of anencephaly occurring since 1960.

There is an increased incidence of anencephaly in females 2:1, winter births did predominate 2:1; maternal parity in four of the six cases was greater than two; geographical distribution could not be accurately determined. Most of the patients were from lower income families; postmaturity was not a factor and in fact two of the infants were premature by dates; polyhydramnios was reported in one case. The incidence of anencephaly at UTMB was computed to be 0.2/1,000 births/year.

Conclusion

The etiology of anencephaly remains obscure. Various findings seem to correlate with its occurrence, such as: increased incidence in females, increased incidence in winter months; and increased incidence with greater parity. However, none of these findings points to a single causative factor of this malformation. Apparently there is a multifactorial genetic environmental interaction that will explain its occurrence. At present, the only preventive measure available is genetic counseling for those families known to have an increased incidence of severe central nervous system anomalies. Further study of normal development and the effect of noxious stimuli on the developing fetus will be essential before any significant preventive or treatment measures can be instituted against congenital malformations.

References

1. Barnett HL: Pediatrics ed 15. New York, Appleton-Century-Crofts, 1972, p 868.
2. Elwood JH: Anencephalus in the British Isles. Devel Med Child Neurol 12:582-591, 1970.
3. Mufarrij IK, Kilejian VO: Anencephaly. An analysis of anencephalic births and a report of a case of repeated anencephaly. Obstet Gynec 22:657-661, 1963.
4. Renwick JH: Hypothesis: Anencephaly and spina bifida are usually preventable by avoidance of a specific but unidentified substance present in certain potato tubers. Brit J Prev Soc Med 26:67-88, 1972.

Dr. Malloy, 400 Warren Crescent #14, Norfolk, Va 23507.

Dr. Malloy is the second place winner in the *Texas Medicine* award competition for excellence in medical writing.

Health fairs and medical museums in Texas

Milford O. Rouse, MD

Texas has achieved a most creditable record in the way of health fairs and health, science and medical history museums. There have been 16 regular health fairs, and participation by at least eight county medical societies and/or their Auxiliaries in Regional Science Fairs annually. In addition, four museums have been established, the largest number in any state. These museums are located in Dallas, Fort Worth, Houston, and El Paso. A fifth one is in active preparation in Galveston.

For centuries the medical museum played a vital role in the education of physicians, but only in recent decades have the members of the health team recognized their responsibility to public education through museums and health fairs and school health education.

The first recorded health fair in the US was the "Cincinnati Sanitary Fair" in 1862. Others followed in the early 1900's. The first permanent museum to install an exhibit on public health was the American Museum of Natural History in 1912.

A most significant move was made in Texas in 1930 when the Governing Council of the American Public Health Association, meeting in Fort Worth, passed a resolution that "the American Public Health Association regards with favor the development in one or more cities in America of Museums of Hygiene or of Health, which through exhibits, models, and in other ways, will provide a new educational force for the lay public, students, teachers, school children and other groups, which will emphasize the unity of man and the inter-relations of the several aspects of hygiene."

The New York World's Fair in 1939 finally provided the environment and opportunity to crystallize the recommendation of the American Public Health Association of 1930. The new American Museum of Health spear-headed an effort by the AMA and other groups to provide exhibits in the Pavilion of Medicine and Public Health, seen with great interest and approval by millions of visitors. Many of these exhibits later went to the Cleveland Health Museum, the first permanent institution of its kind in the western hemisphere—a stimulating force that inspired several other health museums to launch out.

Meanwhile outstanding health fairs were being staged across the country with millions of persons viewing exhibits covering head-to-toe information on health. In recent decades, Texas had "led the pack."

Health fairs have highlighted such activities as the Texas Centennial, the State Fair of Texas, TMA annual sessions, AMA meetings, international medical meetings and others throughout the state. In circus tents, convention halls and business malls, attendance records are continually being matched and exceeded.

Expansion of regional science fairs has brought emphasis to the area of health careers, and today, many successful health career programs are sponsored throughout the state by various health-related organizations.

At the center of many of these activities in the state are the outstanding health museums.

Dallas Health and Science Museum

In 1945 Dallas had a new, developing Southwestern Medical School. The Dallas Academy of Medicine, an outgrowth of the organization formed to develop capital fund for Southwestern's library, was chartered June 28, 1946, and set about for a project. Among the suggestions was the creation of a Health Museum. Academy

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Editor's Note: Dr. Rouse was one of the first directors of the Dallas Academy of Medicine and was the first secretary of the Dallas Health Museum. He is a past president of the Texas Medical Association and the American Medical Association.

members visited the Cleveland Health Museum, and came back convinced that Dallas should and could have a Health Museum also. The Academy enthusiastically accepted the project.

The Dallas Park Department offered the use of a beautiful building in Fair Park, constructed as a Museum of Household Arts for the Texas Centennial. Subsequently a health fair was staged at the State Fair of Texas with exhibits loaned by the Cleveland Museum, the AMA, and similar scientific groups and health agencies. The 40,000 visitors proclaimed the Health Fair an unquestioned success.

The Dallas Health Museum was formally organized on Sept 17, 1946. In 1958 the charter and name was changed to "Dallas Health and Science Museum," because of the growth of Dallas as a science center. H. Dodson Carmichael, who joined the staff in 1956, became director in 1961. Under his direction, the Dallas Health and Science Museum has become one of the leading institutions of its kind in the United States. It is accredited for full recognition by the American Association of Museums, and is a charter member of the American Association of Health and Medical Museums. A most active Museum Guild has been responsible for many special projects throughout the years.

In 1957 the Museum launched a "Pre-School" program, supported by tuition charges, with special emphasis on health training, and also science, geography, and history.

The Planetarium, added in 1956, offers special programs for various seasons of the year and to emphasize accomplishments in the space program. Free planetarium showings have been given to hundreds of school groups from the Dallas area in recent years. Each summer the Museum sponsors a Junior Science Academy with several special programs. For 15 years, the Museum has worked with the Dallas Gem and Mineral Society to sponsor classes in gem cutting and mineralogy.

Outstanding special exhibits, renowned speakers, contributions and support of the Dallas civic and business sectors as well as generous personal donations make the Dallas institutions list of accomplishments ever growing.

The Dallas Health and Science Museum has a Board of Trustees of 50 physicians and other members of the health-minded community, a smaller Executive Committee, and an Advisory Committee of 75 leaders from all over the country. In the first ten years of its existence it served 2,000,000 visitors. In 1972 there were over 360,000 visitors.

Dallas Health and Science Museum

Fort Worth Museum of Science and History

Several Fort Worth physicians were greatly intrigued by visits to the Dallas Health Museum and the Cleveland Health Museum, and determined to help provide comparable facilities for their area.

A Children's Museum had been launched in 1939, and expanded twice. In 1965, through the support of the Richardson and Carter Foundations, a wing of 28,000 square feet was added to house a History of Medical Science, classrooms, library, laboratories, and storage. Under the new name of the Fort Worth Museum of Science and History at 1501 Montgomery Street, a tremendous educational and informational service has developed. Total attendance in 1972 was 464,000 persons. The fiscal support is shared by the city, county, United Fund and gifts to the Museum.

In the Dr. May Owen Wing of Medical History (named for one of the founding physicians), most interesting exhibits trace by periods the advance of medicine and health care. Restoration of offices of an early North Texas physician and dentist and a pharmacy, remind the viewer of the advantages of modern scientific equipment to provide better health care to the public. New exhibits are being added on the functions of various organs of the human body.

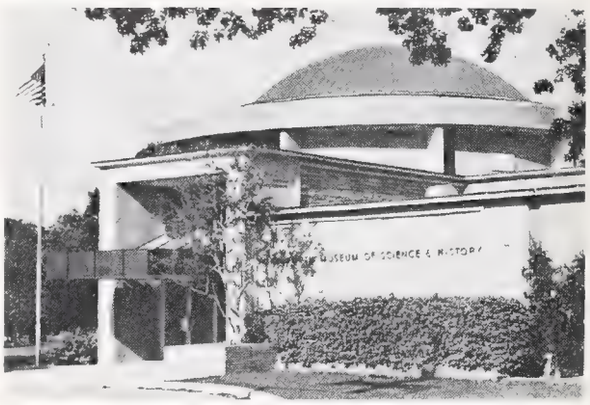
Helmuth J. Naumer heads up the staff as Executive Director.

The Fort Worth institution is unique in providing interesting exhibits on varied subjects all in the same building—health, Texas history, dolls and other fields of interest to children and numerous class rooms for practical instruction.

Houston Museum of Medical Science

The Museum of Medical Science in Houston originated as a result of the very successful Victory over Polio campaign in 1962, when $200,000 in surplus funds were assigned by a citizens committee to the Harris County Medical Society as trustees, "to conceive, build and maintain a permanent exhibition on health and medical science."

The Foundation for the Museum of Medical Science, with a motto of "Better Health Through Knowledge," was chartered on Dec 14, 1964. A Board of Trustees of equal numbers of physicians and laymen, are elected regularly by the Executive Board of the Harris County Medical Society. Arrangements were made for quarters in the Museum of Natural Science Building in Hermann Park, with official opening on Nov 16, 1969. Some 350,000 visits are



Fort Worth Museum of Science and History

Houston Museum of Medical Science housed in the Museum of Natural Science Building

El Paso Medical Museum

made to the Museum annually.
The Museum is dedicated to improving the lives of others through better health standards. Consequently, it is a health education program. Exhibits include animated models illustrating the normal functions of the human body. There is a "Transparent Man," a "Transparent Woman," and a "Transparent Anatomic Digestive Tract." Exhibits are supplemented by formal instruction programs, transient and special interest exhibits, and teaching materials for use in schools, including 50 portable loan models.
Dr. George H. Brandau, vice president for planning of the Houston Museum, is also the first president of the recently organized American Association of Health and Medical Museums, which serves to coordinate activities, exchange ideas, elevate standards, and stimulate the circulation of health exhibits for health fairs and similar events.

El Paso Medical Museum

In 1946 Dr. S. T. Turner, an outstanding pioneer physician of El Paso, in his will gave to the El Paso County Medical Society his stately mansion on Montana Avenue.
In 1965 the El Paso County Medical Society and its Woman's Auxiliary, led by Dr. and Mrs. Werner E.Spier, launched the El Paso Medical Museum in the Turner homestead, "to encourage and foster interest in medical progress in the El Paso Southwest."
The Museum is now divided into two parts: (1) a doctor's office furnished in the period of pre-1900 and (2) a second room with all artifacts dating from 1900 to World War II.
The Medical Museum serves as a center for many activities of the physicians and their wives. Plans are under consideration to expand the service of the Museum. The Museum is of great value to the Trans Pecos Health Council in demonstrating to high school and college students the tremendous progress made by medicine and health care.

Galveston

Active plans are being made for a Medical Museum and Historical Repository at Galveston, in "Old Red," the original Ashbel Smith Building of 1890 at The University of Texas Medical Branch. It will be devoted to historical medicine, health sciences, and arts in medicine, and will house the new Institute for the Medical Humanities.
The Museums in Texas stress not only health and health sciences, but also other aspects of science, and the inspiring story of the history of medicine and health care. They are dedicated to making citizens more interested in assuming the responsibility of their own health, leading to a more healthy, happy and capable citizenry.
Health fairs and health science museums offer the best collaboration for all members of the health team in lay health education. A Health Council provides the most efficient mechanism for the health team to share ideas and efforts in studying and sponsoring projects to improve the health of all.

Medicine and the law

COURT HOLDS NO RECOVERY FOR DAMAGES FOR PROJECTED EXPENSES FOR REARING AND EDUCATING UNWANTED CHILD IN UNSUCCESSFUL OR NEGLIGENT STERILIZATION OPERATION

FACTS: The plaintiff entered the hospital for the dual purpose of delivery of the couple's third child and for the performance of a bilateral tubal ligation to insure her future sterility. It was alleged by the plaintiff that she was assured that such operation would prevent her from ever having children in the future. Nevertheless, she subsequently became pregnant and a normal, healthy son was born. She alleged that the fourth child imposed a heavy financial strain and that she sought the sterilization operation to avoid such strain. The District Court sustained the physician's Motion for Summary Judgment and the Plaintiff appealed. The Court of Civil Appeals in *Terrell vs. Garcia,* 496 S.W.2nd, (Tex. Civ. App. 1973), confirmed the judgment and rehearing was denied. The decision was 2 to 1 with a written dissent.

The sole question presented upon appeal was whether the parents of an unwanted, but normal, healthful child conceived after an unsuccessful sterilization operation on the mother, may recover from the negligent doctor for the financial expenses of the care and maintenance of said child. All other items of damage, such as the medical expenses, as well as the pain and mental anguish of the mother incident to the birth of said child, were waived by the appellants to deliberately narrow the issue before the court.

HOLDING: Where physician performed bilateral tubal ligation requested by the parents of three children, but the mother nevertheless later gave birth to unwanted but normal and healthy fourth child, parents could not recover damages from physician for projected expenses of rearing and educating an unwanted child, even *assuming* that sterilization operation had been negligently conducted.

REASONING: The Court stated that the uniformly recognized rule prior to 1967, was that irrespective of the issue of liability for performance of an unsuccessful sterilization operation, no damages resulted from the birth of a normal child through normal delivery with no permanent harm to the mother on the grounds that the birth of a normal child could not be considered an injury to the parents thereof; and that in any event, the granting of damages on such grounds would be against public policy.

The Court pointed out that this rule was followed in the only Texas case relating to this question, *Hayes vs. Hall,* 477 S.W.2d 406 (Tex. Civ. App. Eastland 1972). In that case it was said to allow damages for the birth and upbringing of a normal child would mean that the doctor would have to pay for the satisfaction, joy and affection which normal parents would ordinarily have in the rearing and education of a healthy child.

The soundness of the above rule was first questioned in *Custodio vs. Bauer,* 251 Cal. App. 2d. 303, (1967). There the plaintiff sought to recover damages following an unsuccessful sterilization operation for the medical expenses of said operation, physical pain and mental anguish incident to the pregnancy, and for economic loss caused by the unwanted child. The California court rejected the reasoning of the uniformly recognized rule holding "where the mother survives without casualty there is still some loss. She must spread her society, comfort, care, protection and support over a larger group. If this change in the family status can be measured economically, it should be as compensable as the former losses."

On rehearing of that case, the court made it clear that it had not as yet held that economic loss alone was recoverable. It said: "We adhere to our determination that resolution of the controversy over one element of the damages allegedly recoverable for that wrong should await proof of the breach of duty and at least an offer to prove the alleged damages."

The reasoning set forth in the *Custodio* case regarding economic loss to parents of an

unwanted, normal child has been cited with approval by at least two other courts, although no reported cases have ever approved a recovery of this type of loss. A Michigan court in *Troppi vs. Scarf* 187 N.W.2d 511 (1971) recognized it is arguable that the birth of a healthy child confers so substantial a benefit as to outweigh the expenses of his birth and support, and this is undoubtedly true in the great majority of the cases. After rejecting such a thesis as a matter of law, the court adopted the so-called "benefits rule" from the *Restatement of Torts* which states "Where the defendant's tortious conduct has caused harm to the plaintiff or to his property and in doing so has conferred upon the plaintiff a special benefit to the interest which was harmed, the value of the benefit conferred is considered in litigation of damages where this is equitable." That court held that the benefits of the unplanned child may be weighed against all elements of claimed damages, including the medical expenses incident to the birth.

The court in the *Terrell* case specifically said that in view of the state of the record it has to *assume* for the purposes of this appeal, although it was not certain, that the operation was negligently performed by the doctor. And thus, they state that the question relates entirely to the compensation for such negligence and that the court did not have before it the question which was presented in the *Custodio* and *Troppi* cases of whether the birth of a normal, healthy child can be considered a compensable injury under theory of law, or whether the negligent doctor is absolved from all liability. Rather, the court stated that the narrow questions presented by appellants here is whether the parents of an unwanted child may recover *only* for the economic loss in rearing and educating such a child.

The court stated that irrespective of the public policy view, the adoption of the so-called "benefits rule" as suggested by the *Troppi* case, would present insurmountable problems of proof under our (Texas) present standards of proof of damages.

The court stated:

> "The satisfaction, joy and companionship which normal parents have in rearing a child make such economic loss worthwhile. These intangible benefits, while impossible to value in dollars and cents are undoubtedly the things which make life worthwhile. Who can place a price tag on a child's smile or the parental pride in child's achievement? Even if we consider only the economic point of view, a child is some security for the parents old age. Rather than attempt to value these intangible benefits, our courts have simply determined that public sentiment recognizes that these benefits to the parents outweigh the economic loss in rearing and educating a healthy, normal child. We see no compelling reason to change such rule at this time."

The dissenting opinion by Judge Cadena stated that he saw no reason for holding that a person whose negligent conduct produces a result which he must have foreseen is not liable for the consequences of his negligent act. He stated that the majority opinion bases this absolution of the negligent actor on social policy and the difficulties which the victim would encounter in attempting to prove the extent of his damages. He stated that in his opinion the question was still whether or not a negligent doctor should be held responsible for the consequences of his negligence. He stated that the facts in the case before the court were that the purpose of the sterilization operation was to avoid the possibility of the birth of *any* children. This is not insignificant in that the purpose of the *Hayes* operation was to avoid a deformed child. He further stated he saw no reason for departing from the rule that a negligent per-

son is liable for the foreseeable consequences of his negligence and there was no justification for holding as a matter of law that the birth of an unwanted child is a blessing. The judge pointed out that the birth of such a child may be a catastrophe not only for the parents and the child itself, but also for the previously born siblings. He said that the doctor whose negligence brings about such an undesired birth should not be allowed to say "I did you a favor," secure in the knowledge that the courts will give to this claim the effect of an irrefutable presumption.

CONCLUSION: After this article was prepared, the Supreme Court of Texas refused to accept a writ of error from the lower court on grounds that there was no reversible error. It now appears that the law in Texas is that there will be no recovery for damages from physicians for projected expenses for rearing and educating unwanted children, even assuming that the sterilization operation has been negligently conducted. With regard to other areas of civil damage, sterilization has not presented any greater exposure to liability than other medical or surgical procedures alleged to have been negligently performed. However, a *physician's statement* respecting the conduct, outcome or safety of medical procedures, sometimes is susceptible of interpretation as a definite guarantee or promise, making him liable for breach of an express warranty if events fail to bear him out. Cases of this type dramatically emphasize the need for physicians to use careful language in dealing with their patients.

Office of TMA General Counsel
Ace Pickens

Questions/Answers

Editor's note: The following questions have been the topics of recent correspondence received at TMA headquarters.

Q What is a definition or description of a "fellow" as used by medical schools, institutions and others for those who are engaged in training or research?

A Dr. George Mixter, Jr., of the AMA, has provided the following information. Though there are no formal, universally-recognized definitions, the information which he has provided should prove of assistance.

There are some 3,200 clinical fellows, most of them in sub-specialty areas. The clinical fellow is a doctor of medicine or osteopathy who has completed at least one year of clinical education since obtaining the degree. He has in most cases completed a formal residency program, and now is engaged in more advanced training. The clinical fellowship is a funded position, created by a hospital or a university in a clinical department, which offers varying proportions of responsibility for patient care, teaching, and research to those desiring specialized instruction and experience ("training"), more advanced or particularized than that available in a residency, and for which no mechanism currently exists for formal approval as a "residency."

Q Are there any State laws or regulations regarding the disposal of human tissue?

A The Association's legal counsel has indicated that there are no State laws or regulations regarding the disposal of human tissue. However, provisions in the Environmental Services Section of the Accreditation Manual, published by the Joint Commission on Accreditation of Hospitals, states: "Waste tissues and contaminated, combustible solids shall be rendered safe by such measures as sterilization or should be incinerated. Incinerators used for such waste disposal must provide complete combustion."

The changing face of Texas Medicine

The September 1923 issue of the *Texas State Journal of Medicine,* now *Texas Medicine,* reported on the success of recent post-graduate courses given at Baylor and the University of Texas under the auspices of the State Medical Association. The editor reported, "There can be no doubt concerning the success of this movement, and the advisability of pushing it to its highest development."

Twenty-two physicians were enrolled in the post-graduate courses at Baylor and 53 attended at The University of Texas. The courses apparently most popular this year were those in laboratory and x-ray diagnosis.

In medical service, 11 clinics were held, the following subjects being considered: diabetes mellitus, pituitary disorders, gastric and duodenal ulcers, thyroid diseases, tabes dorsalis, epidemic encephalitis, chronic nephritis, cardiac arrhythmias, neural syphilis, pernicious anemia and cardiovascular hypertension and hypotension. Medical ward rounds were made on five separate days. The laboratory of Clinical Medicine devoted two hours daily to instructing a small group of physicians in modern methods of laboratory diagnosis. Other clinics were held for the surgery, obstetrics, and gynecology sections.

It was reported that Baylor had recently purchased a large, three-story brick building, immediately adjoining the present medical college building, which will increase the teaching facilities of the institution considerably including the post-graduate course. The new building would house the administrative offices, the library and the laboratories of pathology, bacteriology, histology, and embryology.

Another topic of discussion in this issue was the preparation of a book on christian science from the medical point of view by Dr. Charles E. Humiston of Chicago. Dr. Humiston was chairman of the committee of the AMA appointed to confer with other organizations in an investigation of the sects in medicine, and had been recognized for years as one of the chief exponents of legitimate and ethical medicine in Illinois.

The Journal stated, "It gives promise of being a most satisfactory discussion of this interesting problem of our times, and doubtless will be productive of much good."

The editor recalled the fight on the Medical Practice Act made by the christian scientists during the recent regular session of the Texas Legislature, and the division brought about in the rank and file of the christian scientists as a religious denomination and the christian science healers as professional practitioners of medicine.

Also in this issue section officers and committees were announced. Discussions followed concerning the scientific work of the Association and the importance of committee work. President Dr. Scott urged section officers to organize their respective sections at once and begin to compile their programs.

Personals

DR. ROYCE DONALD BROUGH, JR., 1971 TEXAS MEDICINE Award winner, was named as third place winner of the Alfred A. Richman Essay Contest by the American College of Chest Physicians. He will receive his award at the college's annual meeting Oct 22-25 in Toronto, Ont.

East Texas State University presented DR. BILLY B. OLIVER of Dallas with the Distinguished Alumnus Citation.

DR. E. JACKSON GILES, Corpus Christi, was elected president of the American Cancer Society, Texas Division, at its annual meeting Aug 22-23, in Houston. President elect is DR. RICHARD H. JESSE, Houston.

A renewal grant of $12,000 for a second year of research has been awarded by the American Lung Association (formerly National Tuberculosis and Respiratory Disease Association) to DR. JERRY J. ELLER, San Antonio, for continuation of his project entitled, "Characterization of the Pattern and Magnitude of the Total Cellular and Antibody Immune Response in the Respiratory Tract Following Initial Challenge with Viral Mycobacterial Antigens."

DR. JOSEPH C. OGLE, Dallas cardiologist, has been elected president of the American Heart Association, Dallas County Chapter. Currently, Dr. Ogle is serving as vice-president of the Texas Affiliate of the American Heart Association.

Gov Dolph Briscoe has reappointed Dr. G. V. BRINDLEY, JR., to the Coordinating Board, Texas College and University System, for a six-year term. Dr. Brindley is a surgeon at Scott and White Clinic in Temple.

DR. MARGARET PATRICIA SULLIVAN, Houston, will be installed as president of the American Medical Women's Association at its 58th Annual Meeting to be held in Palm Beach, Fla., Nov. 7-10.

DR. CHARLES B. McCALL, former director of the Regional Medical Program of Texas, is the new Associate Dean for Clinical Affairs for Southwestern Medical School and Director of the Office of Grants Management and Development for the Health Science Center at Dallas.

"The doctor is experimenting with pre-recorded tape instructions for patient advice."

Medicine in literature

Renal Disease in Childhood, John A. James, ed 2, 377 pp, illus, St. Louis, C. V. Mosby, 1972, $23.50.

THE SECOND EDITION of this book has been largely rewritten in a concise and practical style. Its format is readily usable by physicians without special experience in pediatric nephrology who may be responsible for the care of children with renal disease. Two chapters which are classic basic references are *"Normal Anatomy and Physiology,"* and *"Kidney Function and Disease in the Neonatal Period and Early Infancy."* More common diseases such as glomerulonephritis are detailed including current aspects of etiology, immunology, and histopathology. The gamut of relatively uncommon disorders are discussed with recent references for more detailed study of them. The section on dialysis and transplantation should provide interest for those unfamiliar with these techniques in children. Diagnosis and treatment of each disease is practical and not rigidly restrictive reflecting an extensive clinical experience. As in the first edition, it is quite evident that the author has a warm appreciation for the problems encountered by his patients as well as their families.

MYRON G. FINE, MD
Dallas

IN THE TMA LIBRARY

Abrahamson Ira A Jr: *Color Atlas of Anterior Segment Eye Diseases,* New York, McGraw-Hill, 1964.

Adler Sidney Jacson, Terry Keith C: *Your Overactive Child: Normal or Not?,* New York, Medcom Press, 1972.

Bateman James E: *The Shoulder and Neck,* Philadelphia, W. B. Saunders, 1972.

Bergsma Daniel and others: *Bilirubin Metabolism in the Newborn,* Baltimore, Williams & Wilkins, 1970.

Bergsma Daniel and others: *The Clinical Delineation of Birth Defects,* 5 vols., New York, The National Foundation, March of Dimes, 1969.

Bergsma Daniel and others: *Genetic Counseling,* Baltimore, Williams & Wilkins, 1970.

Blevin Margo, Ginder Geri: *The Low Blood Sugar Cookbook,* New York, Doubleday, 1973.

Brown Jason W: *Aphasia, Apraxia and Agnosia,* Springfield, C. C Thomas, 1972.

Chusid Joseph G: *Correlative Neuroanatomy and Functional Neurology,* Los Altos, Lange Med. Pub., 1973.

Conn Howard F and others: *Family Practice,* Philadelphia, W. B. Saunders, 1973.

Danforth David N: *Textbook of Obstetrics and Gynecology,* ed 2, Philadelphia, Harper & Row, 1973.

Downey John A, Darling Robert C: *Physiological Basis of Rehabilitation Medicine,* Philadelphia, W. B. Saunders, 1971.

Gall Edward, Mostofi FK: *The Liver,* Baltimore, Williams & Wilkins, 1973.

Fishbein Morris: *The Handy Home Medical Adviser and Concise Medical Encyclopedia,* new rev. ed., New York, Doubleday, 1973.

Haag Jessie Helen: *Teacher's Guide, Focusing on Health,* Austin, Steck-Vaughn, 1973.

Hamburger Jean: *The Power and The Frailty,* New York, Macmillan, 1973.

Harris, Harry: *The Principles of Human Biochemical Genetics,* New York, American Elsevier Publishing, 1971.

Ingleman-Sundberg Axel, Lunell Nils-Olov: *Current Problems in Fertility.* New York, Plenum Press, 1971.

Juel-Jensen BE, MacCallum FO: *Herpes Simplex Varicella and Zoster,* Philadelphia, J. B. Lippincott, 1972.

King Lester S, Roland Charles G: *Scientific Writing,* Chicago, American Medical Association, 1968.

Kirkham KE, Hunter WM, eds: *Radioimmunoassay Methods; European Workshop,* Edinburgh, Scotland, Churchill Livingston, 1971.

Koppitz Elizabeth Munsterberg: *Children with Learning Disabilities,* New York, Grune & Stratton, 1971.

Krusen Frank H and others: *Handbook of Physical Medicine and Rehabilitation,* ed 2, Philadelphia, W. B. Saunders, 1971.

Larrabee Eric: *The Benevolent and Necessary Institution, The New York Hospital, 1771-1971,* New York, Doubleday, 1971.

Lynch JB, Lewis Stephen R: *Symposium on the Treatment of Burns,* vol 5, St. Louis, C. V. Mosby, 1973.

McDowell Fletcher H and others: *Cerebral Vascular Diseases, 8th Conference,* New York, Grune & Stratton, 1973.

Mart Donald S: *The Carbo-Calorie Diet,* New York, Doubleday, 1973.

Mengel CE, Frei, Emil, Nachman, Ralph, eds.: *Hematology, Principles and Practice,* Chicago, Yearbook Medical Publishers, 1972.

Netter Frank H: *The CIBA Collection of Medical Illustrations: Kidneys, Ureters, and Urinary Bladder,* vol 6, Summit NJ, CIBA, 1973.

Paprella Michael M, Shumrick Donald A: *Otolaryngology,* vols 1, 2 and 3, Philadelphia, W. B. Saunders, 1973.

Rees TD, Wood-Smith D: *Cosmetic Facial Surgery.* Philadelphia, W. B. Saunders, 1973.

Reinecke RD, Stein HA, Slatt BJ: *Introductory Manual for the Ophthalmic Assistant,* St. Louis, C. V. Mosby, 1972.

Reiterman C, ed: *Abortion and the Unwanted Child.* New York, Springer Publishing Co, 1971.

Roemer MI, Friedman JW: *Doctors in Hospitals: Medical Staff Organization and Hospital Performance.* Baltimore, Johns Hopkins Press, 1971.

Roland CG: *William Osler's The Master-Word in Medicine; a study in rhetoric.* Springfield, Ill, Charles C Thomas, 1972.

Rowan RL, Gillette PJ: *Your Prostate: What It Is, What It Does, and the Diseases That Affect It.* New York, Doubleday, 1973.

Rowe AH, Rowe A Jr.: *Food Allergy: Its Manifestations and Control and the Elimination Diets.* Springfield, Ill, Charles C Thomas, 1972.

Roy WR: *The Proposed Health Maintenance Organization Act of 1972,* vol 2 in *Source-*

book Series. Washington, DC, Science and Health Communications Group, 1972.

Scott EM: *The Adolescent Gap: Research Findings on Drug Using and Non-Drug Using Teens*. Springfield, Ill, Charles C Thomas, 1972.

Shapiro Barry A: *Clinical Application of Blood Gases*, Chicago, Year Book Medical Pub, 1973.

Sheagren JN: *Financial Advice for Physicians*. Springfield, Ill, Charles C Thomas, 1972.

Shnider SM, ed: *Obstetrical Anesthesia; current concepts and practice*. Baltimore, Williams & Wilkins, 1970.

Smith CA: *Blood Diseases of Infancy and Childhood*, St. Louis, C. V. Mosby, 1972.

Smith CA, ed.: *The Critically Ill Child*, Philadelphia, W. B. Saunders, 1972.

Sorrentino Joseph N: *The Moral Revolution*, Los Angeles, Nash, 1972.

Speert Harold: *Iconographia Gyniatrica, a Pictorial History of Gynecology and Obstetrics*, Philadelphia, F. A. Davis Co, 1973.

Stehbens WE: *Pathology of the Cerebral Blood Vessels*, St. Louis, C. V. Mosby, 1972.

Stone FL, Gay WI, Lee E Jr, eds: *International Trauma Symposium: Research and Care of the Injured*. Baltimore, Williams & Wilkins, 1970.

Takahashi, Masayoshi: *Color Atlas of Cancer Cytology*, J. B. Lippincott, 1971.

Talland George A, Waugh Nancy C: *The Pathology of Memory*, New York, Academic Press, 1969.

Tharp RG, Wetzel RJ: *Behavior Modification in the Natural Environment*, New York, Academic Press, 1969.

Thienes CH, Haley TJ: *Clinical Toxicology*, ed 5. Philadelphia, Lea & Febiger, 1972.

Top FH Sr, Wehrle PF, eds: *Communicable and Infectious Diseases*, 7th ed., St. Louis, C. V. Mosby, 1972.

Turnley William H: *Shakespearean Medicine, Modernized*, New York, Vantage Press, 1968.

US Army Medical Department: *Surgery in World War II: Orthopedic Surgery in the Zone of Interior*, Washington, DC, Office of the Surgeon General, Department of the Army, 1970.

Warkany Josef: *Congenital Malformations*, Chicago, Near Book Medical Pub, 1971.

Welsh Ashton L: *Side Effects of Anti-Obesity Drugs*, Springfield, Ill. C. C Thomas, 1962.

Werner SC: *The Thyroid; A Fundamental and Clinical Text*, ed. 3, New York, Harper & Row, 1971.

Williams Robert H: *To Live and To Die: When, Why and How*, New York, Springer-Verlag, 1973.

Wing Lorna: *Autistic Children, A Guide for Parents*, New York, Brunner-Mazel, 1972.

RECENTLY DECEASED MEMBERS OF THE TEXAS MEDICAL ASSOCIATION

A. M. ALLISON
Alice, 1909-1973

T. W. BREWER
Houston, 1908-1973

U. L. KRUSEN
Dallas, 1921-1973

J. D. MAYS
Lake Jackson, 1930-1973

W. H. McKENZIE
Fort Worth, 1909-1973

T. U. TAYLOR, II
Fort Worth, 1918-1973

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Recent deaths

Dr. W. H. McKenzie

Dr. Walten Holt McKenzie died July 14, 1973, in Fort Worth, at the age of 64. He specialized in ophthalmology.

Dr. McKenzie attended The University of Texas at Austin, and received a BA degree from The University of Oklahoma, Norman, Okla. He earned an MD degree from Washington University Medical School, St. Louis. Dr. McKenzie completed an internship at St. Louis City Hospital, St. Louis, and residencies in otolaryngology and ophthalmology at Barnes Hospital and Washington University Clinic, St. Louis. He practiced for a short time in Fort Worth before entering the US Navy during World War II. He returned to Fort Worth after the war, where he continued his practice until his death.

Dr. McKenzie was certified by the American Board of Ophthalmology in 1941. He held memberships in American Academy of Ophthalmology and Otolaryngology, Association for Research in Ophthalmology, Texas Medical Association, and American Medical Association.

He is survived by his daughter, Susan McKenzie Cox, Fort Worth; and two sons, Gerald Holt McKenzie, Fort Worth, and James Walten McKenzie, Sherman.

Dr. T. U. Taylor, II

Dr. Thomas Ulvan Taylor, II, died July 8, 1973, in St. David's Hospital, Austin. A heart attack caused the death of the 54-year-old Fort Worth obstetrician gynecologist.

A native of Charleston, SC, Dr. Taylor received his preliminary education in Austin schools, including The University of Texas at Austin. He received an MD degree from The University of Texas Medical Branch in 1943. Following an internship at Episcopal Hospital, Philadelphia, Dr. Taylor served as a lieutenant in the US Navy for two years. After completing residencies in obstetrics and gynecology at Brackenridge Hospital, Austin, and Crawford W. Long Memorial Hospital, Atlanta, Ga., he moved to Fort Worth.

Certified by the American Board of Obstetrics and Gynecology in 1954, Dr. Taylor was a member of Central Association of Obstetricians and Gynecologists, American College of Obstetricians and Gynecologists, American College of Surgeons, and American Society of Abdominal Surgeons. He was elected to inactive membership in Texas Medical Association in 1973.

Dr. Taylor is survived by his wife, Marjorie Lewis Taylor; one son, Thomas U. Taylor, III; and one daughter Kathryn Taylor, all of Fort Worth.

Dr. McKenzie

Dr. Taylor

Dr. J. D. Mays

Dr. Jerry Dean Mays died July 13, 1973, of a heart attack at the age of 42. He had been a family physician in Lake Jackson since1959.

Dr. Mays received his MD degree from Baylor College of Medicine, Houston, and interned at Memorial Hospital, Corpus Christi. He also served as captain in the US Army Medical Corps for two years, prior to establishing a practice in Freeport. Dr. Mays moved to Lake Jackson in 1959. He was active in missionary work and spent 18 months during the mid-1960's setting up a hospital in Tanzania, East Africa. In 1969, he made another medical mission tour to Malaysia. However, after each tour, Dr. Mays returned to Lake Jackson.

Dr. Mays was president of the Brazoria County Medical Society and vice-president of the Community Hospital Medical Staff. He was an associate fellow of the American Academy of Allergy and a member of American Academy of Family Physicians and Texas Medical Association.

He is survived by his wife, Shirley Markham Mays; two sons, Steven L. and Jon Stanley; one daughter, Sandra Michelle; parents, Mr. and Mrs. A. W. Fahrenthold, all of Lake Jackson; and one brother, James E. Mays, Angleton.

Dr. Mays

Dr. Allison

Dr. Brewer

Dr. Krusen

Dr. A. M. Allison

Dr. Albert Murphy Allison, Alice ear, nose, and throat specialist, died July 26, 1973, in Alice. Cause of death was acute kidney failure. He was 64 years old.

A native of Marlin, Tex., Dr. Allison earned a BA degree from The University of Texas at Austin, and an MD degree from The University of Texas Medical Branch at Galveston. After an internship at Kings County Hospital Center, Brooklyn, NY, Dr. Allison practiced in Alice prior to entering the US Air Force during World War II. Upon completion of his military service, he returned to Kings County Hospital Center, Brooklyn, where he completed a residency, following which he continued his practice in Alice.

Dr. Allison served as both secretary and president of Brooks-Duval-Jim Wells County Medical Society, and was a member of Texas Medical Association and American Medical Association.

The physician is survived by his wife, Kathryn Acree Allison, Alice; three sons, A. M. Allison, Jr., Alice, Mike Allison, Dallas, and Dr. J. P. Allison, Austin; mother, Mrs. Jimmie Allison, Marlin; and eight grandchildren.

Dr. U. L. Krusen

Dr. Ursula M. Leden Krusen, clinical professor of physical medicine and rehabilitation at The University of Texas Southwestern Medical School, died July 11, 1973, in Longmont, Colo.

Dr. Krusen was born in Breslau, Germany, in 1921. She received a BA degree from the College of New Rochelle, New York, and an MD degree from Loyola University, Chicago. She also held an MS degree in physical medicine from the University of Minnesota, Rochester. Dr. Krusen was one of the pioneers in physical medicine in the Southwest. After coming to Dallas in 1959, she developed a new treatment program with neuro-muscular patients at Parkland Hospital, and was responsible for the first medical application of microwave diathermy for patients. She also helped establish the first department of physical medicine at Parkland, and became chairman in 1959. She was certified by the American Board of Physical Medicine and Rehabilitation and was a member of American Academy of Physical Medicine and Rehabilitation, American Geriatrics Society, Texas Medical Association, and American Medical Association.

Dr. Krusen is survived by her husband, Dr. Edward M. Krusen; one son, Richard M. Krusen; and one daughter, Nancy Elizabeth; all of Dallas; and one brother, Dr. Hans Von Leden, Los Angeles, Calif.

Dr. T. W. Brewer

Houston internist Dr. Thomas Wayne Brewer died Feb. 15, 1973, in Houston. Cause of death was myocardial infarction.

Dr. Brewer was born in Doniphan, Neb., in 1908. He received a BA degree in 1933 from the University of Nebraska in Lincoln, and in 1939, he was graduated from the University of Nebraska College of Medicine in Omaha with an MD degree.

Dr. Brewer completed an internship and a residency in internal medicine at Houston's Jefferson Davis Hospital and entered private practice in 1947 after service with the US Air Force in World War II.

Dr. Brewer was a member of Harris County Medical Society and Texas Medical Association. He was also a member of American College of Physicians and had been certified by the American Board of Internal Medicine.

The physician is survived by his wife Bernice Newberry Brewer, Houston; and two brothers, Gayle Brewer and M. W. Brewer, both of San Francisco.

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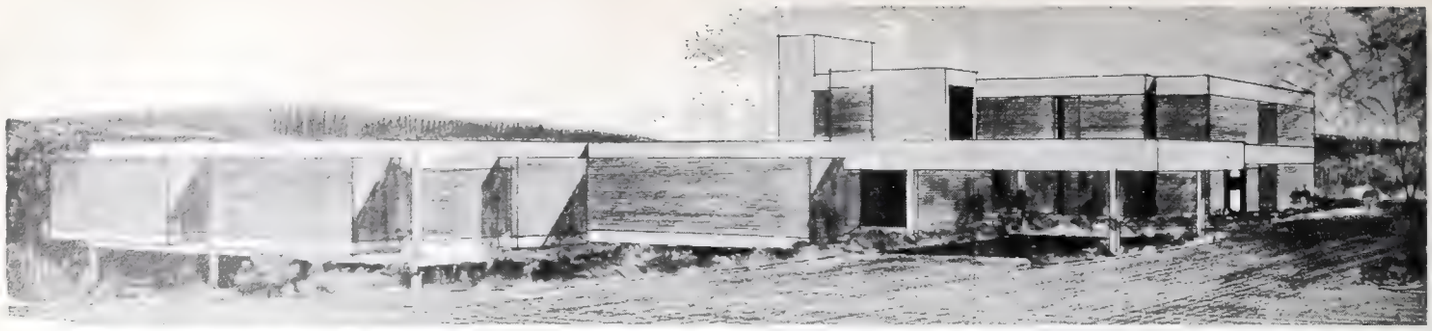

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For an organization supposedly opposed to change, the AMA has made a lot of changes.

One of the most significant was the addition of an important new voice in the AMA—that of interns and residents. For the first time, these young physicians have not only a voice but also a vote in helping shape AMA policies.

Recently, the AMA House provided the same opportunities for membership and participation to medical students.

That's not all. In another important change, the AMA's council-committee structure has been streamlined. Some councils and committees have been dropped. Others have been made more efficient by reducing their size to seven members for councils and five for committees. And to permit more frequent infusion of new members and ideas, maximum tenure of service has been reduced to seven and five years, respectively.

The AMA *has* made a lot of changes. Changes to make it more responsive to the ideas of *all* physicians . . . changes to make it more effectively serve the needs of the profession.

Change will continue. But it will be decided only by those of you interested and dedicated enough to be a force in that change.

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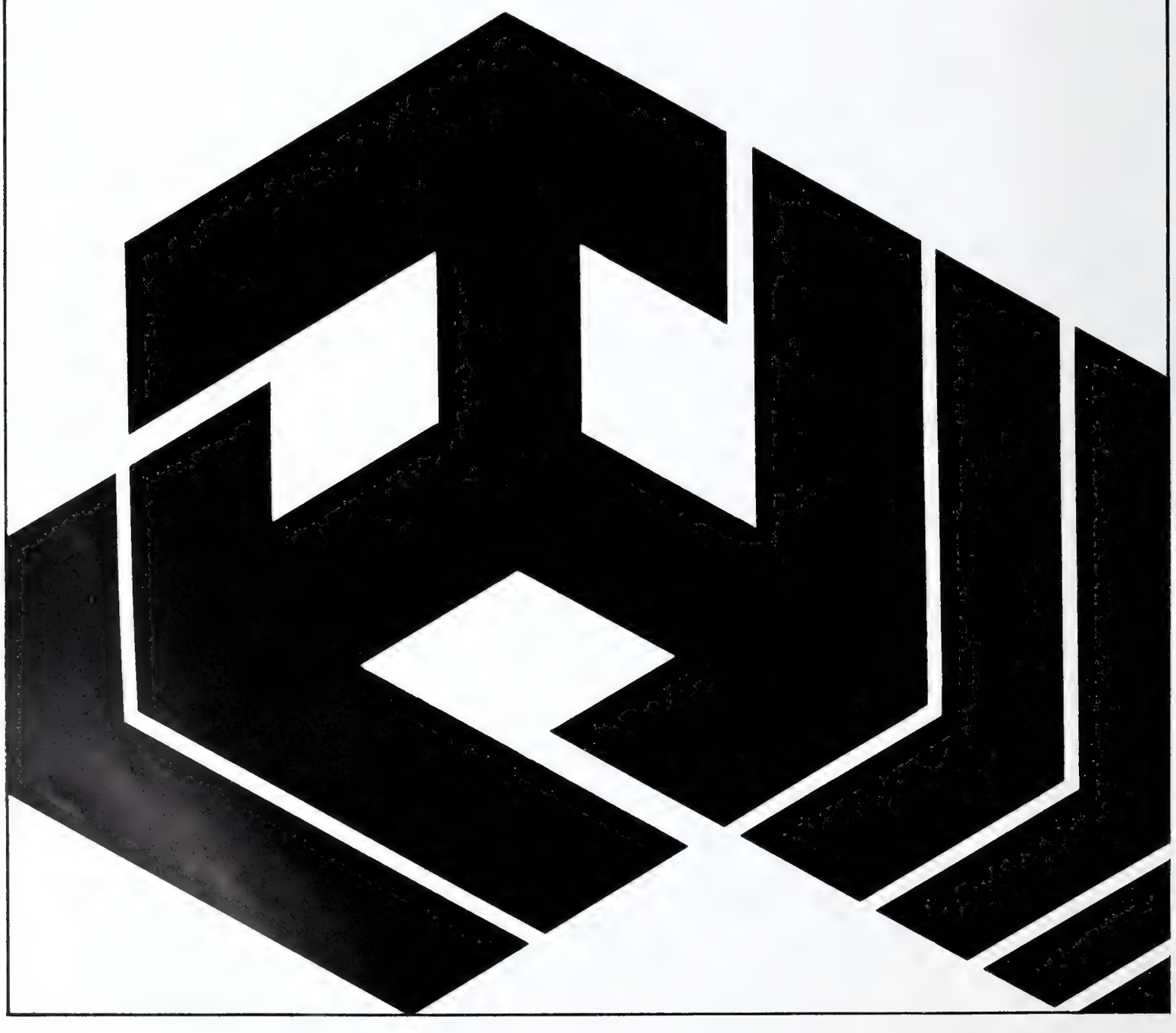

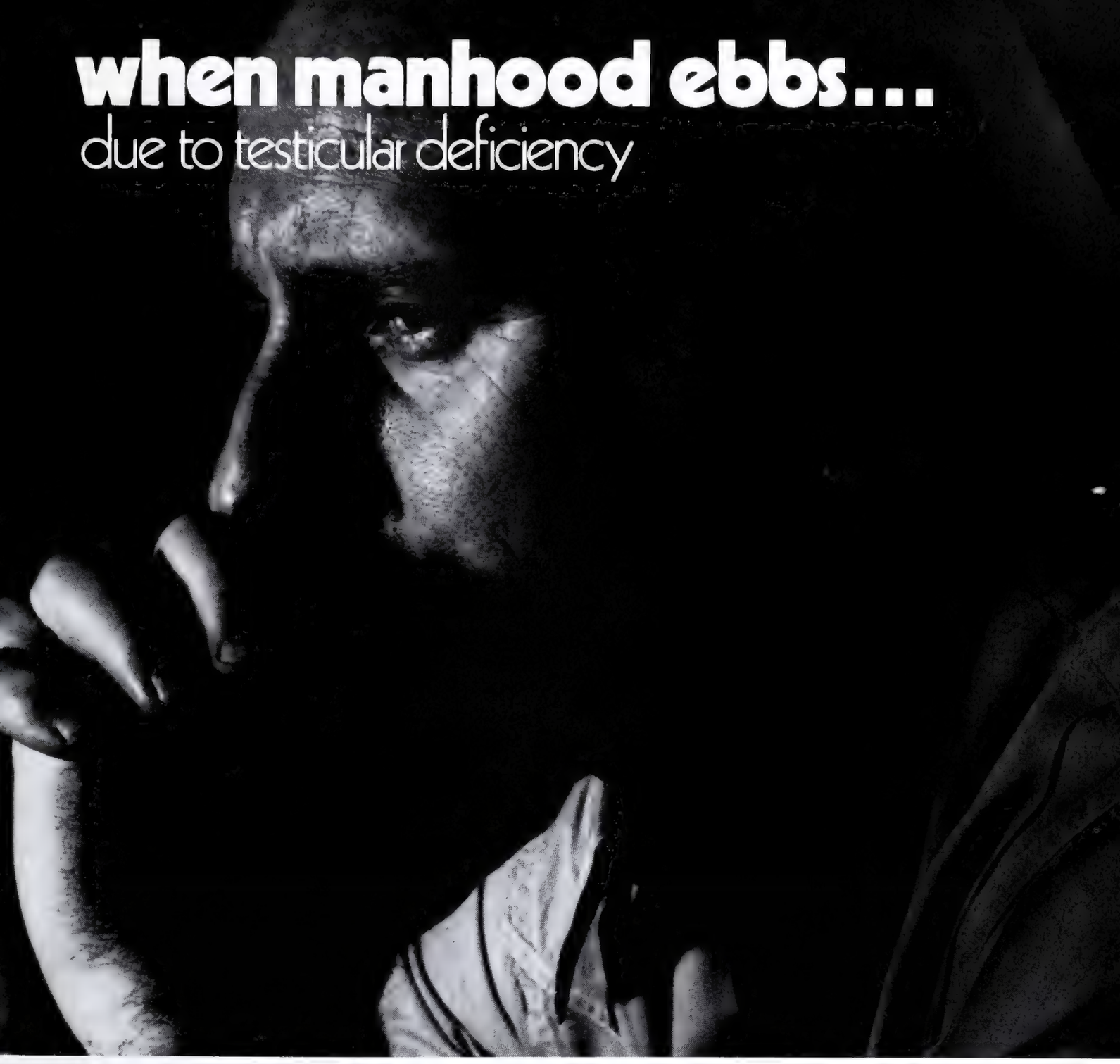

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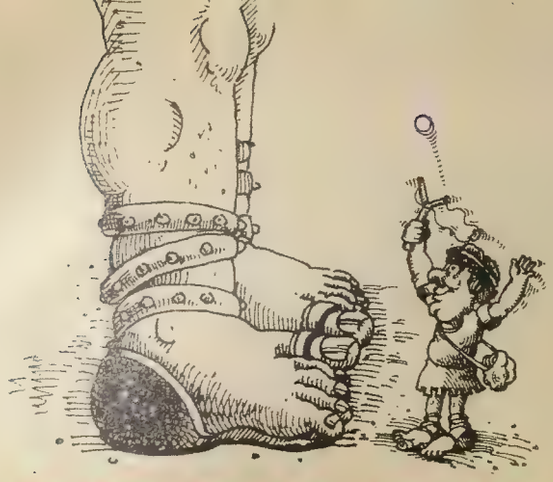

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Precautions: Patients with hypothyroidism, and especially myxedema, are particularly sensitive to thyroid preparations so that treatment should begin with small doses and increments should be gradual.

In patients with diabetes mellitus, addition of thyroid hormone therapy may cause an increase in the required dosage of insulin or oral hypoglycemic agents. Conversely, decreasing the dose of thyroid hormone may possibly cause hypoglycemic reactions if the dosage of insulin or oral hypoglycemic agents is not adjusted.
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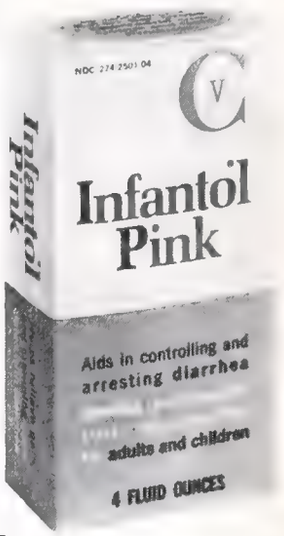

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While Valium can be a most helpful adjunct to your counseling, it should be prescribed only as long as excessive psychic tension persists and should be discontinued when you decide it has accomplished its therapeutic task. In general, when dosage guidelines are followed, Valium is well tolerated (see Dosage). For convenience it is available in 2-mg, 5-mg and 10-mg tablets.

Drowsiness, fatigue and ataxia have been the most commonly reported side effects.

Until response is determined, patients receiving Valium should be cautioned against engaging in hazardous occupations requiring complete mental alertness, such as driving or operating machinery.

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Indications: Tension and anxiety states; somatic complaints which are concomitants of emotional factors; psychoneurotic states manifested by tension, anxiety, apprehension, fatigue, depressive symptoms or agitation; symptomatic relief of acute agitation, tremor, delirium tremens and hallucinosis due to acute alcohol withdrawal; adjunctively in skeletal muscle spasm due to reflex spasm to local pathology, spasticity caused by upper motor neuron disorders, athetosis, stiff-man syndrome, convulsive disorders (not for sole therapy).

Contraindicated: Known hypersensitivity to the drug. Children under 6 months of age. Acute narrow angle glaucoma; may be used in patients with open angle glaucoma who are receiving appropriate therapy.

Warnings: Not of value in psychotic patients. Caution against hazardous occupations requiring complete mental alertness. When used adjunctively in convulsive disorders, possibility of increase in frequency and/or severity of grand mal seizures may require increased dosage of standard anticonvulsant medication; abrupt withdrawal may be associated with temporary increase in frequency and/or severity of seizures. Advise against simultaneous ingestion of alcohol and other CNS depressants. Withdrawal symptoms (similar to those with barbiturates and alcohol) have occurred following abrupt discontinuance (convulsions, tremor, abdominal and muscle cramps, vomiting and sweating). Keep addiction-prone individuals under careful surveillance because of their predisposition to habituation and dependence. In pregnancy, lactation or women of childbearing age, weigh potential benefit against possible hazard.

Precautions: If combined with other psychotropics or anticonvulsants, consider carefully pharmacology of agents employed; drugs such as phenothiazines, narcotics, barbiturates, MAO inhibitors and other antidepressants may potentiate its action. Usual precautions indicated in patients severely depressed, or with latent depression, or with suicidal tendencies. Observe usual precautions in impaired renal or hepatic function. Limit dosage to smallest effective amount in elderly and debilitated to preclude ataxia or oversedation.

Side Effects: Drowsiness, confusion, diplopia, hypotension, changes in libido, nausea, fatigue, depression, dysarthria, jaundice, skin rash, ataxia, constipation, headache, incontinence, changes in salivation, slurred speech, tremor, vertigo, urinary retention, blurred vision. Paradoxical reactions such as acute hyperexcited states, anxiety, hallucinations, increased muscle spasticity, insomnia, rage, sleep disturbances, stimulation have been reported; should these occur, discontinue drug. Isolated reports of neutropenia, jaundice; periodic blood counts and liver function tests advisable during long-term therapy.

Dosage: Individualize for maximum beneficial effect. *Adults:* Tension, anxiety and psychoneurotic states, 2 to 10 mg b.i.d. to q.i.d.; alcoholism, 10 mg t.i.d. or q.i.d. in first 24 hours, then 5 mg t.i.d. or q.i.d. as needed; adjunctively in skeletal muscle spasm, 2 to 10 mg t.i.d. or q.i.d.; adjunctively in convulsive disorders, 2 to 10 mg b.i.d. to q.i.d. *Geriatric or debilitated patients:* 2 to 2½ mg, 1 or 2 times daily initially, increasing as needed and tolerated. (See Precautions.) *Children:* 1 to 2½ mg t.i.d. or q.i.d. initially, increasing as needed and tolerated (not for use under 6 months).

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Recommendations† on Combination Live Virus Vaccines

American Academy of Pediatrics

Committee on Infectious Diseases

In the September 15, 1971 *AAP Newsletter* sent to Academy members, the Committee on Infectious Diseases of the American Academy of Pediatrics stated its recommendations on the use of combination live virus vaccines. After a careful review of available data, the committee concluded that:

- "This information indicates that the products are both safe and effective when used as directed."
- The vaccine "...can, therefore, be recommended with the obvious advantages of reduction in the number of injections for any given child and a concomitant decrease in the required visits to a physician's office or clinic."

†For complete text of both recommendations see your MSD representative or write to Professional Service Dept., Merck Sharp & Dohme, West Point, Pa. 19486.

United States Public Health Service

Advisory Committee on Immunization Practices

In the April 24, 1971 issue of *Morbidity and Mortality Weekly Report,* the Advisory Committee on Immunization Practices of the United States Public Health Service presented recommendations on the use of combination live virus vaccines. The committee stated that:

- "Data indicate that antibody response to each component of these combination vaccines is comparable with antibody response to the individual vaccines given separately.
- "There is no evidence that adverse reactions to the combined products occur more frequently or are more severe than known reactions to the individual vaccines (see pertinent ACIP recommendations).
- "The obvious convenience of giving already selected antigens in combined form should encourage consideration of using these products when appropriate."

M-M-R*

(MEASLES, MUMPS AND RUBELLA VIRUS VACCINE, LIVE | MSD)

Single-dose vials

M-M-R, given in a single injection, fits easily into your routine immunization program for well babies.

Given at age 12 months, M-M-R provides for vaccination early in life against measles, mumps, and rubella.

MSD suggested immunization schedule for well babies

Age	Vaccine(s)
2 months	DPT (diphtheria-pertussis-tetanus) Oral poliomyelitis vaccine (triple)
3 months	DPT[1]
4 months	DPT Oral poliomyelitis vaccine (triple)
6 months	Oral poliomyelitis vaccine (triple)
12 MONTHS	**M-M-R (MEASLES, MUMPS AND RUBELLA VIRUS VACCINE, LIVE, MSD)**

1. This vaccination may be given at 3 months, 5 months, or at 6 months, depending on your preference or on the condition of the child.

Since vaccination with a live virus vaccine may depress the results of a tuberculin test for four weeks or longer, the test and the vaccine should not be given during the same office visit.

*Trademark of Merck & Co., Inc.

For a brief summary of prescribing information, please see following page.

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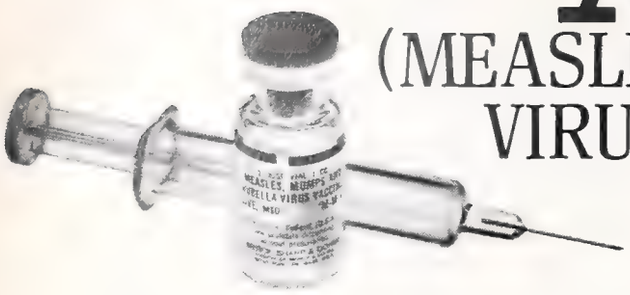

No untoward reactions peculiar to the combination vaccine (M-M-R) have been reported.

Moderate fever (101–102.9 F) occurs occasionally. High fever (over 103 F) occurs less commonly. On rare occasions, children who develop fever may exhibit febrile convulsions. Rash (usually minimal and without generalized distribution) may occur infrequently.

Since clinical experience with measles, mumps, and rubella virus vaccines given individually indicates that very rarely encephalitis and other nervous system reactions have occurred, such reactions may also occur with M-M-R. A cause and effect relationship, however, has not been established.

Excretion of the live attenuated rubella virus from the throat has occurred in the majority of susceptible individuals administered the rubella vaccine. There is no definitive evidence to indicate that such virus is contagious to susceptible persons who are in contact with the vaccinated individuals. Consequently, transmission, while accepted as a theoretical possibility, has not been regarded as a significant risk.

Must not be given to women who are pregnant or who might become pregnant within three months following vaccination.

Contraindications: Pregnancy or possibility of pregnancy within three months following vaccination; infants less than one year old; sensitivity to chicken or duck, chicken or duck eggs or feathers, or neomycin; any febrile respiratory illness or other active febrile infection; active untreated tuberculosis; therapy with ACTH, corticosteroids, irradiation, alkylating agents, or antimetabolites; blood dyscrasias, leukemia, lymphomas of any type, or other malignant neoplasms affecting the bone marrow or lymphatic systems; gamma globulin deficiency, i.e., agammaglobulinemia, hypogammaglobulinemia, and dysgammaglobulinemia.

Precautions: Administer subcutaneously; do not give intravenously. Epinephrine should be available for immediate use should an anaphylactoid reaction occur.

Should not be given less than one month before or after immunization with other *live* virus vaccines; vaccination should be deferred for at least six weeks following blood transfusions or administration of more than 0.02 cc immune serum globulin (human) per pound of body weight, or human plasma.

Due caution should be employed in children with a history of febrile convulsions, cerebral injury, or any other condition in which stress due to fever should be avoided. The physician should be alert to the temperature elevation which may occur after vaccination.

Excretion of the live attenuated rubella virus from the throat has occurred in the majority of susceptible individuals administered the rubella vaccine. There is no definitive evidence to indicate that such virus is contagious to susceptible persons who are in contact with the vaccinated individuals. Consequently, transmission, while accepted as a theoretical possibility, has not been regarded as a significant risk.

Attenuated live virus measles and mumps vaccines, given separately, may temporarily depress tuberculin skin sensitivity; therefore, if a tuberculin test is to be done, it should be scheduled before vaccination, to avoid the possibility of a false negative response.

Before reconstitution, refrigerate vaccine at 2–8 C (35.6–46.4 F) and *protect from light.* Use only diluent supplied to reconstitute vaccine. If not used immediately, return reconstituted vaccine to refrigerator at 2–8 C (35.6–46.4 F), and discard after eight hours.

Adverse Reactions: Fever, rash; mild local reactions such as erythema, induration, tenderness, regional lymphadenopathy; parotitis; thrombocytopenia and purpura; allergic reactions such as urticaria; arthritis, arthralgia, and polyneuritis.

Occasionally, moderate fever (101–102.9 F); less commonly, high fever (above 103 F); rarely, febrile convulsions.

Encephalitis and other nervous system reactions that have occurred very rarely with the individual vaccines may also occur with the combined vaccine.

Transient arthritis, arthralgia, and polyneuritis are features of natural rubella and vary in frequency and severity with age and sex, being greatest in adult females and least in prepubertal children. Such reactions have been reported with live attenuated rubella virus vaccines. Symptoms relating to joints (pain, swelling, stiffness, etc.) and to peripheral nerves (pain, numbness, tingling, etc.) occurring within approximately two months after immunization should be considered as possibly vaccine related. Symptoms have generally been mild and of no more than three days' duration. The incidence in prepubertal children would appear to be less than 1% for reactions that would interfere with normal activity or necessitate medical attention.

How Supplied: Single-dose vials of lyophilized vaccine, containing when reconstituted not less than 1,000 $TCID_{50}$ (tissue culture infectious doses) of measles virus vaccine, live, attenuated, 5,000 $TCID_{50}$ of mumps virus vaccine, live, and 1,000 $TCID_{50}$ of rubella virus vaccine, live, expressed in terms of the assigned titer of the NIH Reference Measles, Mumps, and Rubella Viruses, and approximately 25 mcg neomycin, with a disposable syringe containing diluent and fitted with a 25-gauge, ⅝" needle. Also in boxes of 10 single-dose vials nested in a pop-out tray with a separate box of 10 diluent-containing syringes.

For more detailed information, consult your MSD representative or see full prescribing information. Merck Sharp & Dohme, Division of Merck & Co., INC., West Point, Pa. 19486

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PRINTING OFFICES: Texas Medicine, c/o Stafford-Lowdon Company, 1114 West Daggett, Fort Worth 76104.

Editorials

FAMILY PHYSICIANS REQUIRE CONTINUING EDUCATION

The American Academy of Family Physicians, from the time of its organization in 1948 has considered continued educational excellence its sole reason for existing, and has never deviated from this singleness of purpose in its 25-year history. From its inception, the Academy has required its active members to have continuing medical education each three years as a condition for reelection to membership. The continued growth and enthusiasm of the membership indicates that the standards set were and are acceptable and desirable, even though more than 1,000 former members have been dropped by the Academy in Texas because they failed to keep up their postgraduate education.

Now, much later, other medical organizations are beginning to follow the Academy's lead. In some, continuing education is voluntary; in others, it is required. State legislatures in at least two states have introduced legislation to require participation and documentation of postgraduate study as a condition to continued licensure.

It is not surprising then that with this background the Texas Academy, in 1971, adopted a bold departure from the traditional medical meeting format and determined to conduct its annual scientific assembly largely on campus at The University of Texas Medical Branch in Galveston.

The four-day format centered around more than 150 small group sessions on campus, supplemented by afternoon whole group sessions at Moody Auditorium. More than 250 Academy members registered for the intensive course which began at 8 a m each morning.

In spite of potential technical difficulties, all sessions ran smoothly. Feared potential problems included registration intricacies (each registrant had to choose eight small group sessions from 150), and the assignment of class rooms. Ninety-seven faculty members were involved in the teaching experience.

Medical school students, members of the Academy of Future Family Physicians, manned stations to provide coffee and to help guide Academy members to class rooms.

Immediately following the Assembly's close, registrants were mailed a questionnaire seeking their reaction to the new format. Response was overwhelming and wholly in favor of the new departure in medical meetings.

Along with praise came some suggestions for modifications. These included having the program end Wednesday noon (as in the past years) instead of Thursday; doing away with luncheons; beginning the scientific program Sunday afternoon instead of Monday morning; and leaving more time Monday and Tuesday afternoons for relaxation.

Armed with these positive reactions, the Academy began planning for its 1973 assembly in San Antonio Nov 4-7.

The University of Texas Medical School at San Antonio will present the program; Dr. Paul Cutler, associate dean for clinical affairs, worked with the Academy and the medical school faculty

in developing the 1973 Assembly.

The meeting will begin Sunday afternoon, Nov 4 in the St. Anthony Hotel. Academy members and their wives will hear a panel discussion, "Abortion in Texas." Monday and Tuesday, wives will have separate sessions in the hotel while the doctors participate optionally in small groups on campus sections or whole group sessions in the St. Anthony. Wednesday morning both men and women meet in combined session for a multimedia presentation dealing with "Human Sexuality in the United States."

No doubt the Academy will continue to modify its annual meeting following feedback from its members.

The Academy of Family Physicians foresees possible mandatory requirements of continuing education in the near future, and is convinced that what has been done in Texas through many years voluntarily will be the basis for fulfilling specific requirements later.

B. B. Westbrook, Jr., MD, Beaumont

BICENTENNIAL YEAR IDEAL FOR HEALTH FAIRS

The American Revolution Bicentennial observance in 1976 offers a wonderful opportunity for medical societies and their auxiliaries, with other members of the health team, to sponsor health fairs that would be of tremendous interest and value to the public. As our great state and nation review the achievements of the past 200 years in America, the health team can point out the advances in medicine and other health sciences, the high standards of health care available to responsible Americans, and the obligation of the individual citizen to maintain a sensible program of physical fitness.

Such health fairs can be planned and sponsored as individual expositions by the health team, or as health components of a broad-based bicentennial observance in cities, counties, or larger areas of the state. The important thing to remember is that such events require a lot of planning, and 1976 is barely two years away. The annual session of the Texas Medical Association for 1976 presents a wonderful opportunity for lay health education.

Any worthy bicentennial health fair will call for collaboration by all groups of the health team. A voluntary health council, such as has served in Michigan and in Virginia for 30 years, offers an ideal, flexible mechanism for planning and working together. The Texas Medical Association and the American Medical Association have before them recommendations for such health councils, now under discussion in appropriate councils, with possible action within six months.

In eight of the 16 regional (school) science fairs in Texas each spring, the local county medical society and/or its Woman's Auxiliary cooperates. How easy it would be to expand such weekend regional science fairs into full health fairs, with the aid of exhibits from national health agencies, the American Medical Association and American Dental Association, medical and dental schools, and similar groups. Health career and similar programs would be a "natural." All that is required is a vision and a willingness to work!

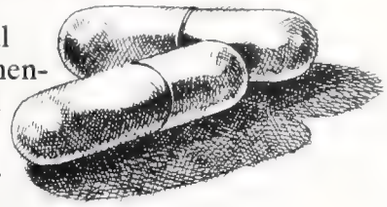
Milford O. Rouse, MD, Dallas

Because you practice medicine in the Lone Star State...

You carry one of the heaviest patient loads in the country. Since this may include a number of patients with gastritis and duodenitis... you should know more about Librax®

Helps reduce anxiety-related G.I. symptoms

A patient may blame his attacks of gastritis or duodenitis on "something he ate" but contributing factors may be his job, marital problems, financial worries or some other unmentioned source of stress and excessive anxiety that exacerbated the condition. Whether it is "something he ate" or "something eating him," adjunctive Librax can help. Librax offers both the antianxiety action of Librium® (chlordiazepoxide HCl), that can help relieve excessive anxiety, and the dependable anticholinergic action of Quarzan® (clidinium Br), that can help reduce gastrointestinal hypermotility and hypersecretion.



Patient-oriented dosage — up to 8 capsules daily in divided doses

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To help relieve anxiety-linked symptoms in gastritis and duodenitis

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Each capsule contains 5 mg chlordiazepoxide HCl and 2.5 mg clidinium Br.

Before prescribing, please consult complete product information, a summary of which follows:

Contraindications: Patients with glaucoma; prostatic hypertrophy and benign bladder neck obstruction; known hypersensitivity to chlordiazepoxide hydrochloride and/or clidinium bromide.

Warnings: Caution patients about possible combined effects with alcohol and other CNS depressants. As with all CNS-acting drugs, caution patients against hazardous occupations requiring complete mental alertness (*e.g.*, operating machinery, driving). Though physical and psychological dependence have rarely been reported on recommended doses, use caution in administering Librium (chlordiazepoxide hydrochloride) to known addiction-prone individuals or those who might increase dosage; withdrawal symptoms (including convulsions), following discontinuation of the drug and similar to those seen with barbiturates, have been reported. Use of any drug in pregnancy, lactation, or in women of childbearing age requires that its potential benefits be weighed against its possible hazards. As with all anticholinergic drugs, an inhibiting effect on lactation may occur.

Precautions: In elderly and debilitated, limit dosage to smallest effective amount to preclude development of ataxia, oversedation or confusion (not more than two capsules per day initially; increase gradually as needed and tolerated). Though generally not recommended, if combination therapy with other psychotropics seems indicated, carefully consider individual pharmacologic effects, particularly in use of potentiating drugs such as MAO inhibitors and phenothiazines. Observe usual precautions in presence of impaired renal or hepatic function. Paradoxical reactions (*e.g.*, excitement, stimulation and acute rage) have been reported in psychiatric patients. Employ usual precautions in treatment of anxiety states with evidence of impending depression; suicidal tendencies may be present and protective measures necessary. Variable effects on blood coagulation have been reported very rarely in patients receiving the drug and oral anticoagulants; causal relationship has not been established clinically.

Adverse Reactions: No side effects or manifestations not seen with either compound alone have been reported with Librax. When chlordiazepoxide hydrochloride is used alone, drowsiness, ataxia and confusion may occur, especially in the elderly and debilitated. These are reversible in most instances by proper dosage adjustment, but are also occasionally observed at the lower dosage ranges. In a few instances syncope has been reported. Also encountered are isolated instances of skin eruptions, edema, minor menstrual irregularities, nausea and constipation, extrapyramidal symptoms, increased and decreased libido—all infrequent and generally controlled with dosage reduction; changes in EEG patterns (low-voltage fast activity) may appear during and after treatment; blood dyscrasias (including agranulocytosis), jaundice and hepatic dysfunction have been reported occasionally with chlordiazepoxide hydrochloride, making periodic blood counts and liver function tests advisable during protracted therapy. Adverse effects reported with Librax are typical of anticholinergic agents, *i.e.*, dryness of mouth, blurring of vision, urinary hesitancy and constipation. Constipation has occurred most often when Librax therapy is combined with other spasmolytics and/or low residue diets.

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Texas requests single-state PSRO

An unprecedented spirit of unity was manifested in an historic meeting Aug 24 in Dallas. The meeting was called by Region VI, Department of Health, Education and Welfare, to obtain opinions from interested parties on area designations in Texas for the implementation of PSRO.

The unity was demonstrated by the unanimous, across-the-board support of the Texas Institute for Medical Assessment plan developed conjointly by the Texas Medical Association and the Texas Osteopathic Medical Association. This plan meets the specifications stipulated for a doctor-sponsored group for the implementation of a statewide system of medical care review, evaluation, and education while recognizing the need for review to be performed at the local level where medical services are rendered.

The plan was supported by many specialty societies, the medical schools of the state, county medical societies, the Texas Hospital Association, the Private Clinics and Hospitals of Texas, the Texas Osteopathic Hospital Association, the Texas State Department of Health, private practitioners of medicine, and of course, the Texas Osteopathic Medical Association and the Texas Medical Association.

Never before have so many individuals representing organizations stood shoulder to shoulder in support of a unified action. With the plant of unity being nurtured by so many fine organizations it is now our hope that on-going dialogue, understanding, and concerted action will be the theme for the future.

The plan has been developed, involved organizations have added their support, and the request has been made for Texas to be designated as a single-state PSRO. If the government bureaucracy is really honest in its avowed intent for better utilization of taxpayers' funds for Medicare and Medicaid patients, Texas will be designated as a single-state PSRO unit.

Charles B. Dryden M.D.

Charles B. Dryden, MD, President,
Texas Medical Association

lov 73

Texas Medicine

Allergy and Immunology

House of Delegates' Actions

News from the state and national capitals

Texas State Board of Medical Examiners moves to Austin

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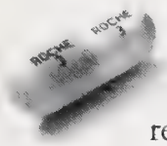

The achievement of desired therapeutic results is often a function of the dosage *strength* as well as the drug's intrinsic action. Thus, when anxiety is *severe*, the 25-mg strength of Librium frequently provides the necessary antianxiety action with a minimum of unwanted adverse reactions. Librium 25 mg is a convenient dosage form for the relief of severe, incapacitating anxiety, specifically formulated to supplement your counsel and reassurance.

Benefits-to-risks ratio permits higher dosage

For over 13 years, Librium has been recognized for its excellent benefits-to-risks ratio, an asset in the *higher* dosage ranges as in more common clinical applications. Thus, the frequency of dosage with Librium 25 mg can be flexibly adjusted to the needs and response of the individual patient, up to 100 mg daily if required. Total daily dosage for the elderly and debilitated should not exceed 20 mg. When severe anxiety has been reduced, Librium dosage should be correspondingly reduced or discontinued entirely.

basic support in severe anxiety

Librium® 25 mg (chlordiazepoxide HCl) 1 capsule t.i.d./q.i.d.

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Nutley, N.J. 07110

Before prescribing, please consult complete product information, a summary of which follows:

Indications: Relief of anxiety and tension occurring alone or accompanying various disease states.

Contraindications: Patients with known hypersensitivity to the drug.

Warnings: Caution patients about possible combined effects with alcohol and other CNS depressants. As with all CNS-acting drugs, caution patients against hazardous occupations requiring complete mental alertness (*e.g.*, operating machinery, driving). Though physical and psychological dependence have rarely been reported on recommended doses, use caution in administering to addiction-prone individuals or those who might increase dosage; withdrawal symptoms (including convulsions), following discontinuation of the drug and similar to those seen with barbiturates, have been reported. Use of any drug in pregnancy, lactation, or in women of childbearing age requires that its potential benefits be weighed against its possible hazards.

Precautions: In the elderly and debilitated, and in children over six, limit to smallest effective dosage (initially 10 mg or less per day) to preclude ataxia or oversedation, increasing gradually as needed and tolerated. Not recommended in children under six. Though generally not recommended, if combination therapy with other psychotropics seems indicated, carefully consider individual pharmacologic effects, particularly in use of potentiating drugs such as MAO inhibitors and phenothiazines. Observe usual precautions in presence of impaired renal or hepatic function. Paradoxical reactions (*e.g.*, excitement, stimulation and acute rage) have been reported in psychiatric patients and hyperactive aggressive children. Employ usual precautions in treatment of anxiety states with evidence of impending depression; suicidal tendencies may be present and protective measures necessary. Variable effects on blood coagulation have been reported very rarely in patients receiving the drug and oral anticoagulants; causal relationship has not been established clinically.

Adverse Reactions: Drowsiness, ataxia and confusion may occur, especially in the elderly and debilitated. These are reversible in most instances by proper dosage adjustment, but are also occasionally observed at the lower dosage ranges. In a few instances syncope has been reported. Also encountered are isolated instances of skin eruptions, edema, minor menstrual irregularities, nausea and constipation, extrapyramidal symptoms, increased and decreased libido—all infrequent and generally controlled with dosage reduction; changes in EEG patterns (low-voltage fast activity) may appear during and after treatment; blood dyscrasias (including agranulocytosis), jaundice and hepatic dysfunction have been reported occasionally, making periodic blood counts and liver function tests advisable during protracted therapy.

Supplied: Librium® Capsules containing 5 mg, 10 mg or 25 mg chlordiazepoxide HCl. Libritabs® Tablets containing 5 mg, 10 mg or 25 mg chlordiazepoxide.

NOW ISORDIL® (ISOSORBIDE DINITRATE) TEMBIDS® CAPSULES, 40 mg.

One capsule b.i.d. helps protect your angina pectoris* patients for up to 24 hours a day.

THERE ARE TWO FORMS OF SUSTAINED ACTION ISORDIL— ISORDIL TEMBIDS CAPSULES, 40 mg., AND ISORDIL TEMBIDS TABLETS, 40 mg.

Widely accepted Isordil Tembids Tablets are now joined by an additional sustained action form, Isordil Tembids Capsules, providing greater prescribing flexibility.

***Indications:** Based on a review of this drug by the National Academy of Sciences—National Research Council and/or other information, FDA has classified the indication as follows:

"Possibly" effective: When taken by the oral route, Isordil (isosorbide dinitrate) is indicated for the relief of angina pectoris (pain of coronary artery disease). It is not intended to abort the acute anginal episode, but is widely regarded as useful in the prophylactic treatment of angina pectoris.

Final classification of the less-than-effective indications requires further investigation.

Contraindication: Idiosyncrasy to this drug.

Warnings: Data supporting the use of nitrites during the early days of the acute phase of myocardial infarction (the period during which clinical and laboratory findings are unstable) are insufficient to establish safety.

Precautions: Tolerance to this drug and cross-tolerance to other nitrites and nitrates may occur. In patients with functional or organic gastrointestinal hypermotility or malabsorption syndrome, it is suggested that either the ISORDIL 5 mg. or 10 mg. Oral tablets or sublingual tablets be the preferred therapy. The reason for this is that a few patients have reported passing partially dissolved ISORDIL TEMBIDS tablets in their stools. This phenomenon is believed to be on the basis of physiological variability and to reflect rapid gastrointestinal transit of the sustained action tablet. TEMBIDS SHOULD NOT BE CHEWED.

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Consult direction circular before prescribing.

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Subscriptions: $3 per year for members; $6 for nonmembers; $8 for foreign; $5 for libraries, hospitals, and universities; $3 for medical students. Single copy: $1.

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ON THE COVER

Not so long ago, the sneezing reaper and other poor souls afflicted with allergies couldn't do much except sneeze, itch, and be generally miserable. Now, allergy specialists have substantially more to offer their patients (see editorial on p 148), and immunology continues to add to the knowledge of basic mechanisms of allergy (see article beginning on p 59).

NEXT MONTH

Articles now scheduled for December are on preventing thrombosis; rehabilitating the stroke patient; vocational guidance in rehabilitating cardiac patients and stroke patients; treating essential hypertension; medical problems associated with cardiac surgery; mechanical circulatory assistance; combined coronary endarterectomy and saphenous vein bypass graft; condensed view of the controversy over drug therapy of adult-onset diabetes mellitus; and pediatric grand rounds.

Pinworm therapy is often a family affair

Contraindications: History of hypersensitivity to thiabendazole.
Warnings: If hypersensitivity reactions occur, drug should be discontinued immediately and not resumed. Rarely, erythema multiforme has been associated with thiabendazole therapy; in severe cases (Stevens-Johnson syndrome), fatalities have occurred. Because CNS side effects may occur quite frequently, activities requiring mental alertness should be avoided. Safe use in pregnancy or lactation has not been established.
Precautions: Ideally, supportive therapy is indicated for anemic, dehydrated, or malnourished patients prior to initiation of anthelmintic therapy. In presence of hepatic or renal dysfunction, patients should be carefully monitored.
Adverse Reactions: Most frequently encountered are anorexia, nausea, vomiting, and dizziness. Less frequently, diarrhea, epigastric distress, pruritus, weariness, drowsiness, giddiness, and headache have occurred. Rarely, tinnitus, hyperirritability, numbness, abnormal sensation in eyes, blurring of vision, xanthopsia; hypotension, collapse; enuresis; transient rise in cephalin flocculation and SGOT; perianal rash, cholestasis and parenchymal liver damage; hyperglycemia; transient leukopenia; malodor of the urine, crystalluria, hematuria; appearance of live Ascaris in the mouth and nose. Hypersensitivity reactions

Chewable Tablets 500 mg Mintezol®
(THIABENDAZOLE | MSD)

so easy to take everyone in the family can keep to the regimen you prescribe

include: fever, facial flush, chills, conjunctival injection, angioedema, anaphylaxis, skin rashes, erythema multiforme (including Stevens-Johnson syndrome), and lymphadenopathy.
Supplied: Chewable tablets, containing 500 mg thiabendazole, in boxes of 36, strip packaged, individually foil wrapped; Suspension, containing 500 mg thiabendazole per 5 ml, in bottles of 120 ml.

For more detailed information, consult your MSD representative or see full prescribing information. Merck Sharp & Dohme, Division of Merck & Co., INC., West Point, Pa. 19486

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addendum

INDICATION | DOSAGE SCHEDULE

MINTEZOL® (Thiabendazole, MSD) has demonstrated effectiveness against a broad spectrum of nematode infections. Dosages are weight related. For your convenience, the information in the weight-dose chart below is included in the full prescribing information and in the 1973 edition of PDR.
The recommended maximum daily dose of MINTEZOL is 3 g (6 tablets).
MINTEZOL should be given after meals if possible. Dietary restriction, complementary medications, and cleansing enemas are not needed.
The usual dosage schedule for all conditions is two doses per day. The size of the dose is determined by the patient's weight.

Weight-dose chart:

WEIGHT (lb)	EACH DOSE (g)	TABLETS
25	0.25	½
50	0.5	1
75	0.75	1½
100	1.0	2
125	1.25	2½
150 & over	1.5	3

The regimen for each indication follows:

INDICATION	REGIMEN	COMMENTS
Pinworm disease	Two doses per day for 1 day. Repeat in 7 days. This regimen is designed to reduce the risk of reinfection.	If this is not practical, give 2 doses per day for 2 successive days.
Threadworm,* large roundworm,* hookworm,* and whipworm* disease	Two doses per day for 2 successive days.	A single dose of 20 mg/lb or 50 mg/kg may be employed as an alternative schedule, but a higher incidence of side effects should be expected.
Creeping eruption	Two doses per day for 2 successive days.	If active lesions are still present 2 days after completion of therapy, a second course is recommended.
Symptoms of trichinosis* during the invasive phase of the disease	Two doses per day for 2 to 4 successive days according to the response of the patient.	The optimal dosage for the treatment of trichinosis has not been established.

*Clinical experience with thiabendazole for treatment of each of these conditions in children weighing less than 30 lb has been limited.

NEWS

House of Delegates meets in first semi-annual session

Meeting in its first semi-annual session Nov 3-4 in Austin, the TMA House of Delegates adopted statements and recommendations relating to many phases of health care including the areas of PSROs, HMOs, abortion, continuing education and pollution.

The House of Delegates reaffirmed its endorsement of the designation of Texas as a single PSRO area and also endorsed the Texas Institute for Medical Assessment (TIMA) as the PSRO for the state. At the same time, the House directed the TMA Board of Trustees to seek appropriate methods of informing the public regarding this issue and the impact of PSRO.

The House adopted an amended version of a resolution on prepaid health care delivery systems which had been considered by the Executive Board in October. The resolution recognized a prepaid health care delivery system (sometimes referred to as HMO) that has the "capacity to protect the doctor-patient relationship." It was emphasized that the prepaid health care delivery system discussed is only one method of health care delivery and does not change the TMA long-standing endorsement of fee-for-service.

A policy statement concerning abortion was approved by the House. The statement said, in part "It is recognized that abortion may be performed at a patient's request, or upon a physician's recommendation. No physician should be required to perform, nor should any patient be forced to accept, an abortion. Neither physician, hospital, nor hospital personnel shall be required to perform any act violative of good medical judgment or personally held moral principles."

The Committee on Maternal Health is in the process of defining the "standards of good medical practice" and will report detailed guidelines concerning a policy on abortion.

The House approved a pilot study to determine the feasibility of an accreditation program for continuing education institutions.

The House referred two recommendations for implementation to the Special Committee on Environmental Pollution. The recommendations concerned the development of a plan to inform the public when air pollution episodes occur and an educational program to familiarize the public with the hazards of air pollution and how to minimize its harmful effects.

In the area of health education, the House supported recommenda-

tions that the combined teaching certificate in health and physical education at all levels be discontinued and a general upgrading of requirements for teaching health subjects be implemented. The initiation of the health education curriculum in Texas was also supported.

The House approved the Committee on School Health's proposals for changes in the medical examination report for school bus drivers. These changes simplify the report and permit discretionary judgment by physicians. In addition, a statement concerning an applicant's experience with hallucinatory drugs was approved as a disqualifying factor.

The House authorized the TMA Board of Trustees to charge appropriate fees to registrants at workshops, conferences, and seminars sponsored by TMA which are directed toward improvement in the registrants' practice or office management procedures. The House stated that no fees should be charged to registrants at workshops, conferences, and seminars which are directed toward preparation for better serving the needs of their respective county societies or of TMA or to the Annual Session or to the fall and winter conferences.

The Council on Constitution and Bylaws was instructed to prepare proposed amendments which would delegate equal authority to the spring and fall sessions of the House.

A recommendation was adopted that encourages the staffs of local hospitals to use an official diet manual. The TMA library will aid such requests by making available a number of such manuals for evaluation.

The House approved a measure, also approved by the Executive Board, that TMA terminate its group insurance contracts with Prudential Insurance Company as soon as is feasible; and that the Committee on Association Insurance Programs be instructed to negotiate a new group program contract with any acceptable insurance company.

Approval was received concerning the report on the extension of Medicare benefits to patients with chronic renal disease. The reference committee reviewing this topic urged all doctors to read the report in its entirity.

TMA members were also encouraged by the House to convey their views to the members of the Texas Legislature regarding the impor-

NEWS

tance of the retention of Article XVI, Section 31 of the Texas Constitution.
(See Medicine and the law, p. 115)
Strong opposition was expressed by the House to the intent and detail of Intermediary Letter 73-10, 73-12 which advises that preadmission review be done in each hospital by the hospital utilization review committee within 24 hours after admission, and that length-of-stay by diagnosis be developed for application to Title XIX patients.
A resolution referred to the Council on Medical Legislation for implementation encouraged the introduction and support of legislation that would effectively change the Texas statutes to voluntarily allow for disposition of stillborn infants.
Other topics acted on by the House included a resolution recommending that fluoroscopic examinations should be performed only by a physician adequately trained in the practice, and resolutions relating to the incidence, public education, and physicians' reporting of VD.

New AMA appointments include Texas physicians

The Board of Trustees of the American Medical Association recently announced additional appointments to AMA councils
and committees.
The new appointments reflect a greater representation of Texas physicians in the AMA. New additions include: Drs. Sam A. Nixon, Floresville, Council on Environmental, Occupational, and Public Health; Joe T. Nelson, Weatherford, Council on Legislation; William J. Mangold, Jr., San Antonio, intern and resident member on Council on Legislation and appointment to Committee on House Staff Affairs.
Also appointed were Drs. Russell L. Deter, El Paso, Committee on Drug Dependence (a new committee); Robert L. Donald, Houston, chairman of the Committee on Community Emergency Service; Max E. Johnson, San Antonio, reappointed as chairman of the Committee on Nursing; Jack P. Abbott, Houston, chairman of the Committee on Transfusion and Transplantation; and John M. Dietschy, Dallas, Archives of Internal Medicine.

Call for scientific exhibits for 1974 Annual Session

TMA has issued a call for scientific exhibits for the 1974 Annual Session in Houston in May.
Scientific exhibits are displayed by individuals or groups of individuals as opposed to technical exhibits sponsored by commercial companies.
Dale Werner, exhibit manager for the 107th Annual Session, said the deadline for a scientific exhibit application by a physician or group is Jan 1. The TMA Committee on Scientific Exhibits determines if an exhibit will be accepted.
Awards are presented in four categories. In addition, TMA also presents the Aesculapius Award for the outstanding exhibit presented by a Texas physician.
Entry classifications include: scientific exhibit without grant or assistance; scientific exhibit with grant or assistance from a university, hospital, government agency, or non-profit organization; scientific exhibit with grant or assistance from a pharmaceutical or other commercial enterprise; and exhibits of educational-promotional nature which carry a message of interest and importance to the attention of the medical
profession.
A physician board of judges rates exhibits on the basis of clarity, effectiveness, personal presentation, contribution to basic knowledge, practical value and originality.
Booths for exhibits are provided at no charge. Any necessary special arrangements can be made.
Exhibit applications and additional information may be obtained from TMA headquarters, 1801 N Lamar Blvd, Austin, Texas 78701.

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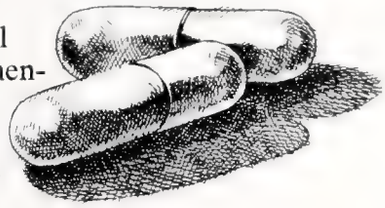

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Precautions: In elderly and debilitated, limit dosage to smallest effective amount to preclude development of ataxia, oversedation or confusion (not more than two capsules per day initially; increase gradually as needed and tolerated). Though generally not recommended, if combination therapy with other psychotropics seems indicated, carefully consider individual pharmacologic effects, particularly in use of potentiating drugs such as MAO inhibitors and phenothiazines. Observe usual precautions in presence of impaired renal or hepatic function. Paradoxical reactions (*e.g.*, excitement, stimulation and acute rage) have been reported in psychiatric patients. Employ usual precautions in treatment of anxiety states with evidence of impending depression; suicidal tendencies may be present and protective measures necessary. Variable effects on blood coagulation have been reported very rarely in patients receiving the drug and oral anticoagulants; causal relationship has not been established clinically.

Adverse Reactions: No side effects or manifestations not seen with either compound alone have been reported with Librax. When chlordiazepoxide hydrochloride is used alone, drowsiness, ataxia and confusion may occur, especially in the elderly and debilitated. These are reversible in most instances by proper dosage adjustment, but are also occasionally observed at the lower dosage ranges. In a few instances syncope has been reported. Also encountered are isolated instances of skin eruptions, edema, minor menstrual irregularities, nausea and constipation, extrapyramidal symptoms, increased and decreased libido—all infrequent and generally controlled with dosage reduction; changes in EEG patterns (low-voltage fast activity) may appear during and after treatment; blood dyscrasias (including agranulocytosis), jaundice and hepatic dysfunction have been reported occasionally with chlordiazepoxide hydrochloride, making periodic blood counts and liver function tests advisable during protracted therapy. Adverse effects reported with Librax are typical of anticholinergic agents, *i.e.*, dryness of mouth, blurring of vision, urinary hesitancy and constipation. Constipation has occurred most often when Librax therapy is combined with other spasmolytics and/or low residue diets.

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NEWS

Anson Jones Award competition announced

The Texas Medical Association has announced its 18th annual Anson Jones Award competition for excellence in communicating health information to the public.

Texas newspapers, magazines, and radio and television stations are eligible to enter the competition established to recognize the contribution of journalism to a better public understanding of medicine and health in Texas. The winner of each of the eight award categories will receive $100 and an engraved plaque.

Judging criteria includes accuracy, significance, quality, public interest, and impact. Selections are made by representatives from the field of publishing, broadcasting, and medicine, with final winners selected by a physician panel.

Entry deadline is Dec 10, 1973, covering work which has been published or broadcast between Dec 1, 1972, and Nov 30, 1973.

Winners will be announced Feb 1, 1974, with award presentations made at the TMA Annual Session in Houston in May 1974.

The award is named in honor of Dr. Anson Jones, a pioneer Texas physician, distinguished writer, and former president of the Republic of Texas.

Last year's winners were Mary Jane Schier, *The Houston Post*; Margaret Deats Bott, *The Galveston Daily News*; Bobbi Schott, *Medina Valley and County News Bulletin*; Jack Moseley, *The Fort Worth Press*; David S. Jones, *The Exchange Post*; Thomas Wright, KAUM, Houston; Harvie Edmunds, KIII-TV, Corpus Christi; and Rudy Coons, KFDA-TV, Amarillo.

Complete information may be obtained from county medical societies or by contacting Jon R. Hornaday, Director of Public Relations, Texas Medical Association, 1801 N Lamar Blvd, Austin, Tex 78701.

Center for Health Education proposed by committee

The creation of a National Center for Health Education to help individuals prevent sickness and enhance their health has been recommended by the President's Committee on Health Education.

The 17-man committee appointed by President Nixon two years ago to examine and assess the state of the nation's health education effort reported that health education had been neglected. "Many, perhaps most major causes of sickness and death can be affected—some prevented—by individual behavior, yet the whole field of health education is fragmented, uneven in effectiveness, and lacks any base of operations," the Committee stated.

The Committee said that it collected data from more than 2,000 individuals, organizations, institutions, and agencies in the course of its work, and that it found little or no coordination of effort or evaluation of the effectiveness of existing programs either in or outside of government on the part of any group working in the field.

The proposed agency would be a private, nonprofit organization authorized by Congress and financed by both the federal government and private sources. Its principal functions were outlined in the Committee's report.

The Committee said it recommended the Center be run by a board of 25 persons to be appointed by the President and confirmed by the Senate. They should represent major groups concerned with health, as well as representatives of the consuming public, government, commerce and industry, labor, voluntary health organizations, insurance and pre-payment carriers and others.

Dr. Joseph T. Painter of Houston served as a member of the Committee.

Chubby "Tex" Cherub stresses VD education

Chubby "Tex" Cherub, the video VD quiz kid, has made his Texas debut in his fight against venereal disease.

This animated cartoon character lives in a multi-media van sponsored by the Texas State Department of Health. During the next six months, Chubby will visit schools, shopping centers, fairs, football games, neighborhood centers and metropolitan cities throughout Texas.

The traveling cherub is part of an intensified effort by the health department and physicians, health educators, news media and civic organizations to attack through education the rapidly rising VD incidence in Texas.

Chubby "Tex" Cherub and the VD health education mobile van is a unique way of striving to reach the high-risk groups—those not in school and not well informed—with a novel approach. Chubby appears on a TV screen and "raps" with teenagers or anyone else passing by. His mouth moves in synchronization with words spoken by a man hidden inside the van.

The unique feature of the van is that it incorporates a closed-circuit TV system which allows the cartoon character to carry on a "live" two-way conversation with people in the audience. Chubby's answers are spontaneous and frank, but still informative and entertaining. A second closed-circuit television screen attached to the van is used for showing film clips such as Walt Disney's new cartoon film, "VD: Attack Plan," and public service spots encouraging young people to have regular VD tests.

The van is being leased by the health department for the six month period with federal funds for VD education.

VD incidence in Texas has been rising at a rate of 15% a year and remains a major public health concern despite the intensive educational efforts by many civic and professional organizations.

Chubby "Tex" Cherub has arrived in Texas to lead the fight against VD.

According to State Department of Health's morbidity records, sent in by local health departments, hospitals, cooperating agencies and clinics, and private physicians, Texas had a total of 62,765 reported cases of VD last year.

The Texas Medical Association was one of six organizations which recently received certificates of appreciation from the health department for assistance in VD education programs.

The TMA Council on Public Service and Communication has approved endorsement of this project by the Association.

Nueces county conducts health fair

Nueces County Medical Society conducted its fifth annual health fair Oct 17-20 in Corpus Christi.

A project of the Society's Public Relations Committee, this year's fair featured a preventive medicine theme. Exhibits emphasized public information and education which would help the public become aware of what is available within the county and motivated to seek professional help early. Many displays encouraged public participation or gave the visitors a small service such as a blood pressure reading.

Members of the medical society were available throughout the fair to answer questions.

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While Valium can be a most helpful adjunct to your counseling, it should be prescribed only as long as excessive psychic tension persists and should be discontinued when you decide it has accomplished its therapeutic task. In general, when dosage guidelines are followed, Valium is well tolerated (see Dosage). For convenience it is available in 2-mg, 5-mg and 10-mg tablets.

Drowsiness, fatigue and ataxia have been the most commonly reported side effects.

Until response is determined, patients receiving Valium should be cautioned against engaging in hazardous occupations requiring complete mental alertness, such as driving or operating machinery.

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Before prescribing, please consult complete product information, a summary of which follows:

Indications: Tension and anxiety states; somatic complaints which are concomitants of emotional factors; psychoneurotic states manifested by tension, anxiety, apprehension, fatigue, depressive symptoms or agitation; symptomatic relief of acute agitation, tremor, delirium tremens and hallucinosis due to acute alcohol withdrawal; adjunctively in skeletal muscle spasm due to reflex spasm to local pathology, spasticity caused by upper motor neuron disorders, athetosis, stiff-man syndrome, convulsive disorders (not for sole therapy).

Contraindicated: Known hypersensitivity to the drug. Children under 6 months of age. Acute narrow angle glaucoma; may be used in patients with open angle glaucoma who are receiving appropriate therapy.

Warnings: Not of value in psychotic patients. Caution against hazardous occupations requiring complete mental alertness. When used adjunctively in convulsive disorders, possibility of increase in frequency and/or severity of grand mal seizures may require increased dosage of standard anticonvulsant medication; abrupt withdrawal may be associated with temporary increase in frequency and/or severity of seizures. Advise against simultaneous ingestion of alcohol and other CNS depressants. Withdrawal symptoms (similar to those with barbiturates and alcohol) have occurred following abrupt discontinuance (convulsions, tremor, abdominal and muscle cramps, vomiting and sweating). Keep addiction-prone individuals under careful surveillance because of their predisposition to habituation and dependence. In pregnancy, lactation or women of childbearing age, weigh potential benefit against possible hazard.

Precautions: If combined with other psychotropics or anticonvulsants, consider carefully pharmacology of agents employed; drugs such as phenothiazines, narcotics, barbiturates, MAO inhibitors and other antidepressants may potentiate its action. Usual precautions indicated in patients severely depressed, or with latent depression, or with suicidal tendencies. Observe usual precautions in impaired renal or hepatic function. Limit dosage to smallest effective amount in elderly and debilitated to preclude ataxia or oversedation.

Side Effects: Drowsiness, confusion, diplopia, hypotension, changes in libido, nausea, fatigue, depression, dysarthria, jaundice, skin rash, ataxia, constipation, headache, incontinence, changes in salivation, slurred speech, tremor, vertigo, urinary retention, blurred vision. Paradoxical reactions such as acute hyperexcited states, anxiety, hallucinations, increased muscle spasticity, insomnia, rage, sleep disturbances, stimulation have been reported; should these occur, discontinue drug. Isolated reports of neutropenia, jaundice; periodic blood counts and liver function tests advisable during long-term therapy.

Dosage: Individualize for maximum beneficial effect. *Adults:* Tension, anxiety and psychoneurotic states, 2 to 10 mg b.i.d. to q.i.d.; alcoholism, 10 mg t.i.d. or q.i.d. in first 24 hours, then 5 mg t.i.d. or q.i.d. as needed; adjunctively in skeletal muscle spasm, 2 to 10 mg t.i.d. or q.i.d.; adjunctively in convulsive disorders, 2 to 10 mg b.i.d. to q.i.d. *Geriatric or debilitated patients:* 2 to 2½ mg, 1 or 2 times daily initially, increasing as needed and tolerated. (See Precautions.) *Children:* 1 to 2½ mg t.i.d. or q.i.d. initially, increasing as needed and tolerated (not for use under 6 months).

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NEWS

PSRO designation still unsettled

The designation of Texas as a single Professional Standards Review Organization (PSRO) continues to be the only proposal presented to Region 6 of the Department of Health, Education and Welfare.

DHEW Secretary is required to designate PSRO areas by Jan 1, 1974.

Texas Institute for Medical Assessment (TIMA) has been organized by licensed physicians of Texas to qualify as a physician-sponsored group for a single, statewide PSRO in Texas.

TIMA is supported by TMA, Texas Osteopathic Medical Association, Texas Hospital Association, Texas Osteopathic Hospital Association, Private Clinics and Hospital Association, Texas Nursing Home Association, medical schools (MD and DO) and state agencies including State Department of Health and Office of Comprehensive Health Planning.

TIMA's October newsletter stated that DHEW and the Office of Professional Standards Review continue to make a strong push for a 2,500 physician limit on the size of any PSRO and appear to be intent in the effort to establish direct contracts with nine to 12 regional PSROs in Texas. TIMA repeated its opposition to multiple PSROs in the state, feeling that it would divide and fragment physicians. TIMA feels physicians should be responsible to their peers and not to governmental agencies.

TIMA's effort to secure a single area designation for Texas has been aided by amendment, approved by the US Senate Finance Committee as presented by Sen Lloyd Bentsen (D-Tex), allowing statewide area designations and prohibiting the DHEW Secretary from refusing to designate any qualified organization as a PSRO contractor solely on the basis of number of physicians practicing in the area designated. Representatives of TIMA met with 23 Texas congressmen and both Texas senators recently to discuss the proposal for the single state PSRO. Each congressional member at that time pledged his full support and cooperation.

Texas Medicine cited by IABC

Texas Medicine has received an award of merit in the 1973 International Association of Business Communicators (IABC) District 5 Evaluations and Awards Program.

The TMA journal was one of 39 company, association and organizational publications selected as award winners from over 150 competition entries from a five-state area. IABC is the professional organization for writers, editors, audio-visual specialists, managers and other business and organizational communicators.

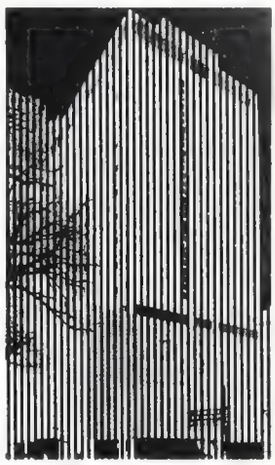
Three professional communicators evaluated each publication on the basis of writing, appearance, and overall content.

The critique of *Texas Medicine's* overall content noted that the journal was 'An excellent and ambitious professional publication. It performs its objectives well and delivers useful information to Texas physicians." On the writing section the evaluator said, "Excellent journalism. A professional magazine written in a professional manner."

In the past 15 years, *Texas Medicine* has been the recipient of more than 20 awards.

"I think Family Practice means he has a mixed bag."

THE NEW ST. JOSEPH PROFESSIONAL BUILDING



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- ☐ a snack shop is located in the main mall and a variety of other eating facilities are conveniently located within easy walking distance of the building.
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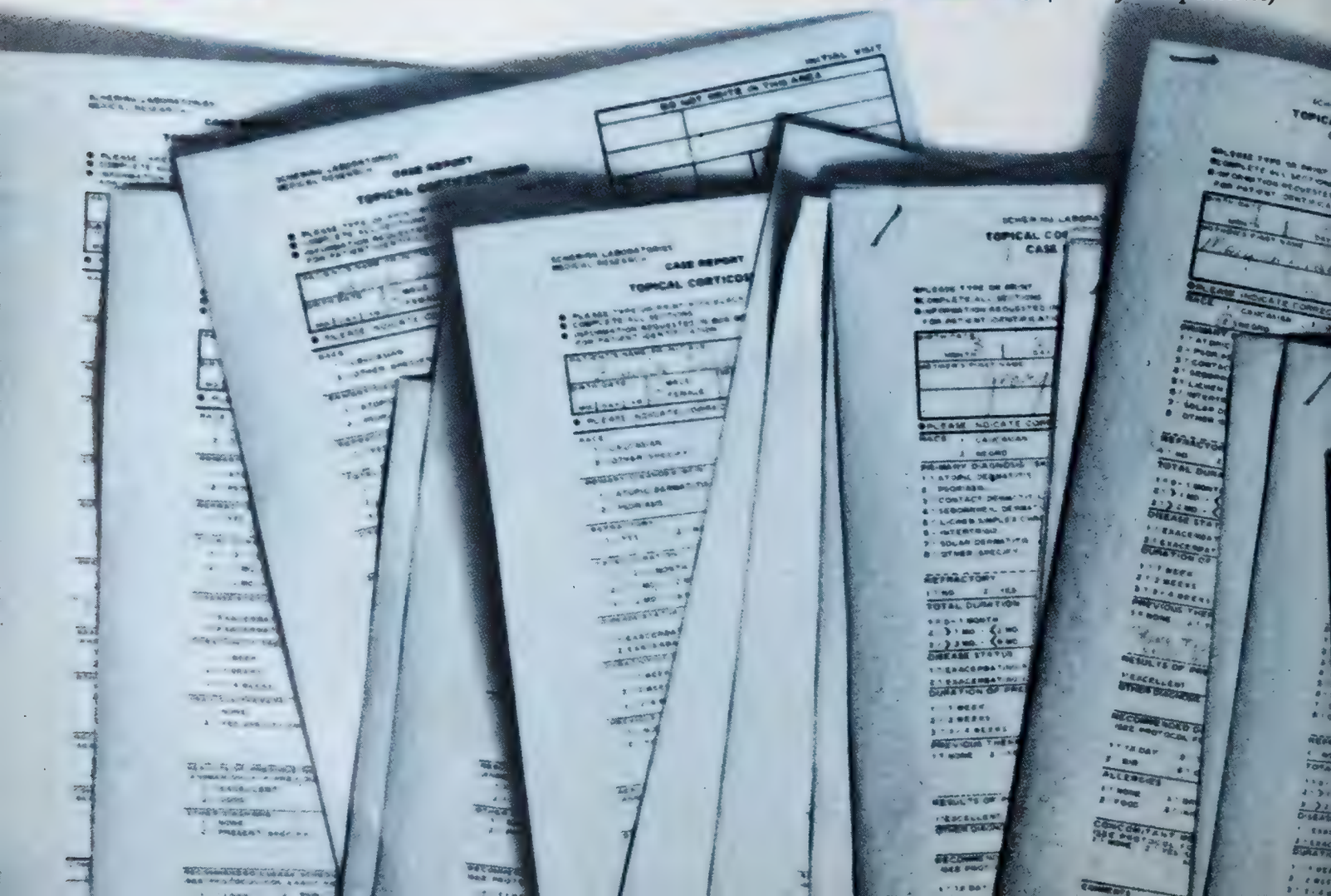

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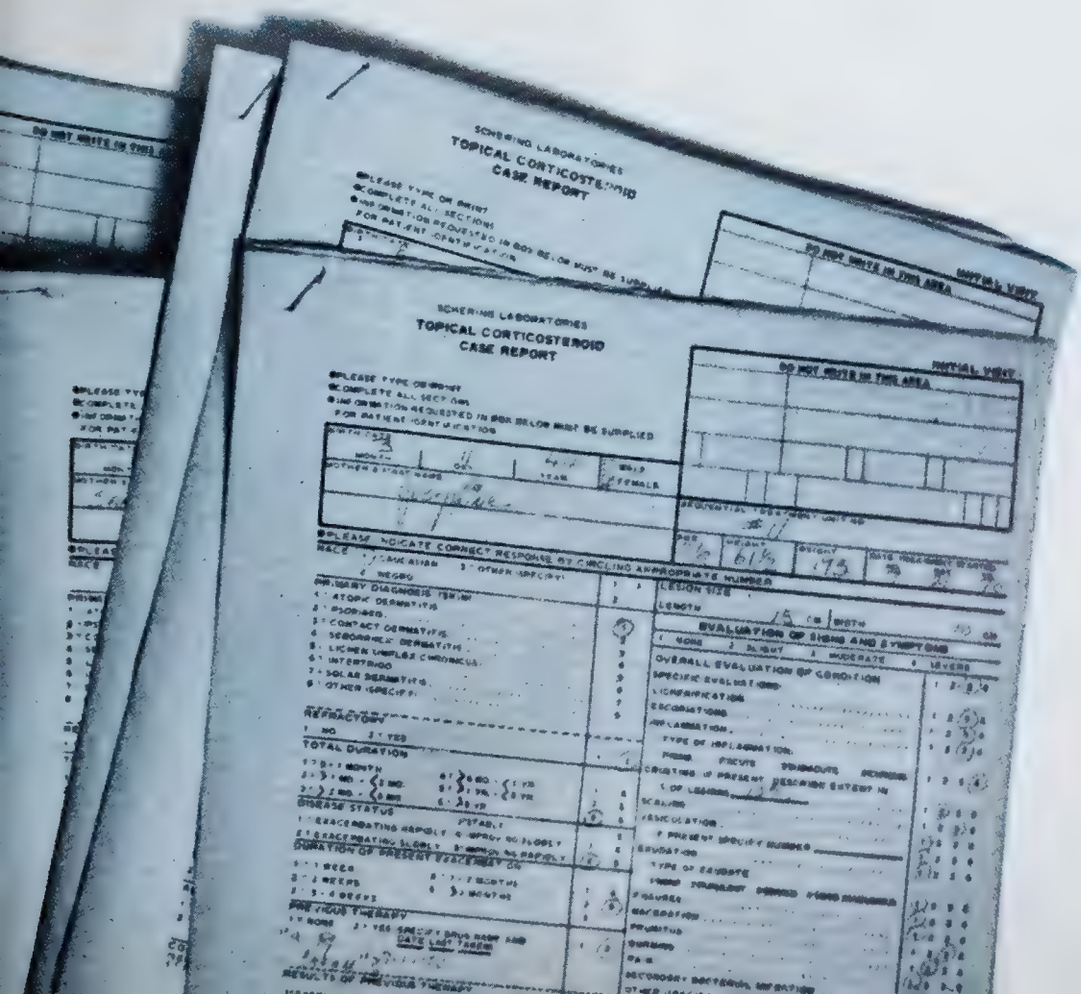

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Indications VALISONE Cream and Ointment are indicated for the relief of the inflammatory manifestations of corticosteroid-responsive dermatoses.

Contraindications VALISONE Cream and Ointment are contraindicated in vaccinia and varicella. Topical steroids are contraindicated in those patients with a history of hypersensitivity to any of the components of the preparation.

Precautions If irritation develops with the use of VALISONE Cream or Ointment, treatment should be discontinued and appropriate therapy instituted. In the presence of an infection, the use of an appropriate antifungal or antibacterial agent should be instituted. If a favorable response does not occur promptly, the corticosteroid should be discontinued until the infection has been adequately controlled. If extensive areas are treated or if the occlusive technique is used, the possibility exists of increased systemic absorption of the corticosteroid and suitable precautions should be taken. Although topical steroids have not been reported to have an adverse effect on pregnancy, the safety of their use in pregnant females has not been absolutely established. Therefore, they should not be used extensively in pregnant patients, in large amounts, or for prolonged periods of time. VALISONE Cream and Ointment are not for ophthalmic use.

Adverse Reactions The following local adverse reactions have been reported with topical corticosteroids: burning, itching, irritation, dryness, folliculitis, hypertrichosis, acneform eruptions, and hypopigmentation. The following may occur more frequently with occlusive dressings than without such therapy: maceration of the skin, secondary infection, skin atrophy, striae, and miliaria.

Dosage and Administration Apply a thin film of VALISONE Cream or Ointment to the affected skin areas one to three times a day. Clinical studies of VALISONE have indicated that dosage only once or twice a day is often feasible and effective. AUGUST 1972

For more complete details, consult Schering literature available from your Schering Representative or Professional Services Department, Schering Corporation, Kenilworth, New Jersey 07033.

References: *(1) Files of Headquarters Medical Research Division, Schering Corporation. (2) Carter, V. H., and Noojin, R. O.: Curr. Therap. Res. 9:253, 1967. (3) Falk, M. S.: Cutis 2:788, 1966. (4) Goldblum, R. W.: Pennsylvania Med. 69:50, 1966. (5) Nierman, M. M.: J. Indiana M. A. 10:1184, 1966. (6) Zimmerman, E. H.: Arch. Dermat. 95:514, 1967.*

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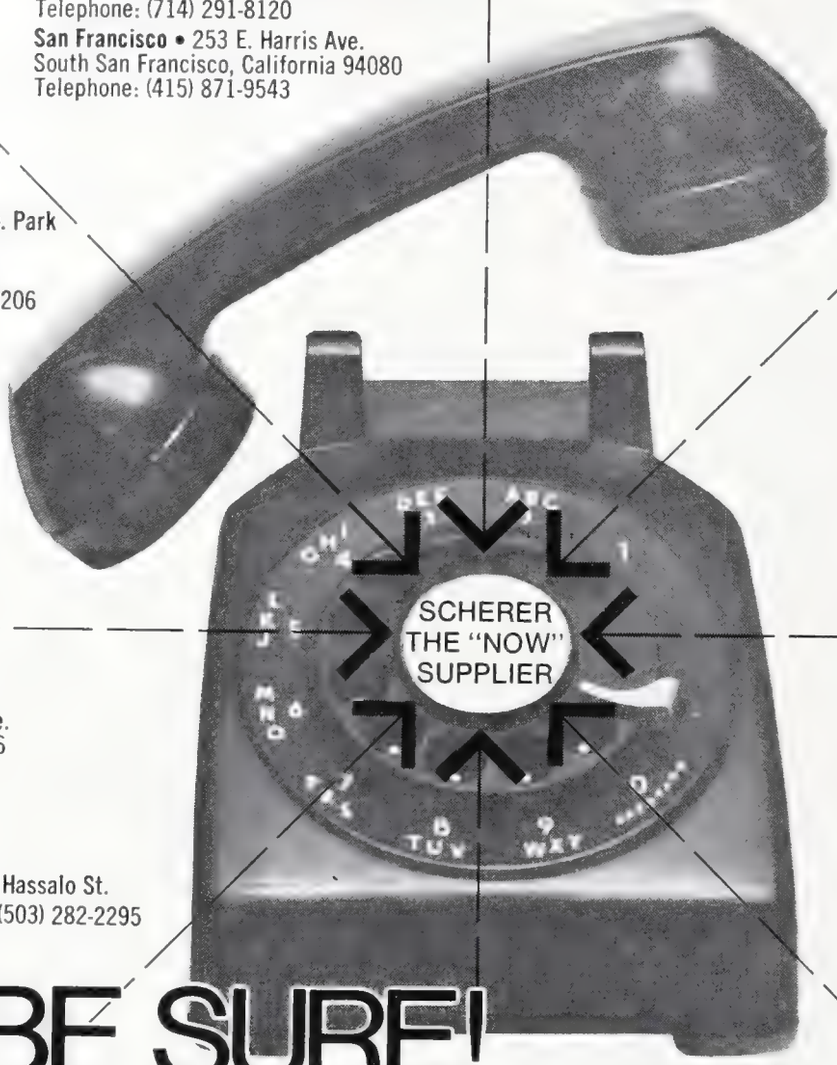

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IRS sets new guidelines for travel expenses

A new set of informal guidelines concerning combination business and pleasure trips has been issued by the Internal Revenue Service.

The guidelines state that among the deductible items for business expenses are traveling expenses "while away from home in pursuit of a trade or business." This includes amounts spent for meals and lodging which are not lavish or extravagant under the circumstances.

In regard to conventions, traveling expenses may be deducted if the taxpayer shows his attendance benefits or advances the interest of his own employment or business. The guidelines state that the agenda of the convention need not deal specifically with the taxpayer's official duties, but the agenda is sufficient if it is so related that attendance for a business purpose is indicated.

If a taxpayer's spouse travels to the convention also, those travel expenses are not deductible unless the spouse's presence at the convention has a bona fide business purpose.

If attendance at a convention includes both business and personal activities, traveling expenses are deductible only if the trip is primarily related to business. If the trip is primarily personal, however, expenses that are properly allocable to the taxpayer's business while at the convention are deductible.

The determination of whether the trip is mainly personal or business is based upon the circumstances in each case according to the IRS. However, one determining factor mentioned is the amount of time spent on personal activities and the amount spent on business activities.

For conventions outside the United States, the taxpayer must allocate traveling expenses between the percentage of the trip that is business related and that which is pleasure oriented. No deduction is allowed for the portion of expenses spent for traveling to and from the convention in a foreign country that is not allocable to business. This, however, does not apply to trips of less than a week's duration or one in which personal activities accounted for less than 25% of the total time.

In addition, the guidelines allow that this allocation will not apply "if the taxpayer incurring such expenses can show through the facts and circumstances relating to the trip that he did not have substantial control over arranging the trip or that obtaining a personal vacation was not a major consideration in his decision to make the trip."

It is important to note that the IRS has emphasized that no deductions will be allowed for any expenditure in excess of $25 which is not documented by adequate records or sufficient corroborating evidence including the amount of expense, the time and place of travel and the business purpose of the expense.

Over 84,000 disabled Texans covered by Social Security

According to the Texas Rehabilitation Commission 84,345 disabled Texans collect $14,536,763 per month under the provisions of the Social Security Disability Program.

In addition, 18,084 spouses of Texas workers and 55,818 children of these workers are granted $932,126 and $2,535,182 per month in benefits respectively.

Under the program a worker under age 65 can receive monthly benefits if he is unable to work due to a mental or physical impairment that has lasted, or is anticipated will last, at least 12 months or is expected to result in death. The dependents of these workers are also eligible for monthly benefits.

Statistics for 1970, the latest figures available for worker diagnostic pat-

terns, show that diseases of the circulatory system composed the largest diagnostic disease group both in Texas and the entire country.

Within the overall diagnostic groups, the most prevalent primary diagnosis in 1970 in both Texas and the nation was chronic ischemic heart disease.

NEWS

Across the nation, 1.8 million workers and 1.4 million dependents receive disability benefits in the amount of $5 billion a year. Additional information concerning the Texas Social Security Disability Program can be obtained from Dr. Marvin C. Schlecte, Administrative Medical Consultant, Texas Rehabilitation Commission, 1600 W 38 St, Austin, Tex 78731.

Health department reports on meningococcal infections

The Texas State Department of Health reports that meningococcal infections occurring in Texas during the period 1963-1972 inclusive totalled 1,455 cases.

Dr. M. S. Dickerson, chief of Communicable Disease Services for the department noted that infants (less than one year of age) are more immune to this disease because they are protected by antibodies passed on from their mothers. He added that infants soon lose that inherited protection, however, and become more susceptible to the disease until they form their own antibodies due to subclinical infections. This accounts for the peak rise in the number of cases in the 1-4 year age group as shown in the chart.

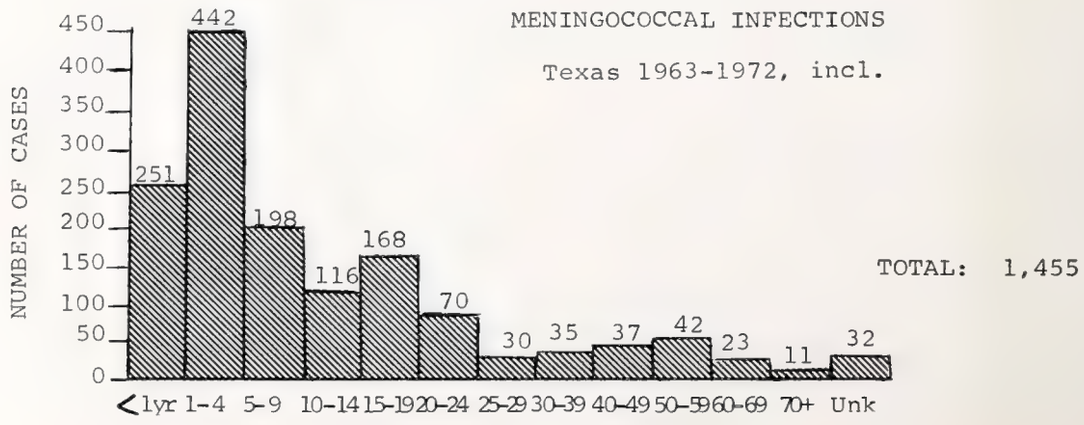
As more exposure to subclinical meningococcal meningitis infections occurs and with development of more protective antibodies in the individual, the incidence of disease decreases beginning with the 5-9 year age group and continues through the older group.

Dr. Dickerson stated that the increase in the number of cases in the 15-19 year age group is attributed in large part to the infections reported occurring in military personnel stationed in Texas.

During the five-year study of meningococcal infections in Texas, 1964-1968, the average age number of N. meningococcal infections for the state was 156.4 cases per year. The incidence of disease was greatest in infancy and declined steadily with advancing age.

The percentage of isolates inhibited by 1.0 mg/100 ml sulfadiazine for group B averaged 53% for the nation and 42% for Texas; for group C it averaged 56% nationally and 36% for Texas. In the past several years more group C organisms have been resistant to sulfadiazine than previously. In 1972, 82.3% of 107 group C isolates from civilians were resistant to 10 mcg/ml of sulfadiazine.

Investigators have developed an experimental vaccine (polysaccharide antigens) that provides 90% protection against group C strains. It is anticipated that eventually a trivalent vaccine directed against groups A, B, and C will be developed.



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NEWS

Physician volunteers to serve Constitutional Convention

The volunteer Physician for a Day program will again serve the Texas legislators during the coming Constitutional Convention beginning in January.

Sponsored by the Texas Academy of Family Physicians and TMA, the service was first established for the 62nd regular session of the Legislature and also served the 63rd session completed earlier this year.

During each day of the Convention, a physician, volunteering his services, will staff a clinic with the assistance of Registered Nurse Vera Taylor, on loan from the Department of Public Welfare.

Physicians from across the entire state have participated in the program since its inception.

Equipment for the small Capitol dispensary has been supplied by the Texas State Department of Health. In addition to providing medical assistance to the Texas lawmakers, the Physician for a Day program was designed to help the Capitol staff and visitors also, rendering immediate aid when needed.

At the close of the 63rd session, a Senate Concurrent Resolution was passed expressing the gratitude of the legislators to the medical profession, and every participating physician received a certificate designating him "Capitol Physician."

Grant to support atherosclerosis research

Research in atherosclerosis will be pursued under a major grant of $1.5 million made to The University of Texas Health Science Center at San Antonio by the National Heart and Lung Institute.

The five-year project will be in conjunction with Southwest Foundation for Research and Education in San Antonio.

Dr. Henry McGill, professor of pathology at the health science center is principal investigator. Co-investigators include Dr. Glen Mott, instructor in pathology and biochemistry at the health science center; Dr. Claud Bramblett, associate professor of anthropology at The University of Texas at Austin; and from SFRE, Dr. Gary Moore, head of animal resources and Dr. Duane Kramer, head of reproductive physiology.

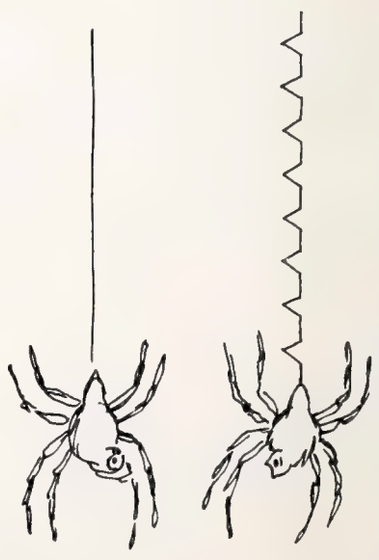
Baboons will be studied because of their similarities to man, Dr. McGill said, adding that these animals also are afflicted with the early stages of atherosclerosis.

Vocational nurse licenses issued

Vocational nurse licenses have been issued to 624 candidates who passed the State Board Test Pool Examination recently conducted by the Board of Vocational Nurse Examiners.

A total of 818 candidates took the statewide examination held in Austin.

Mrs. Jean Terry Kneessy, graduate of St. Philip's School of Vocational Nursing in San Antonio, attained the top score of 719. There were 17 students with the top ten scores.



"I think I've broken a chromosome."

Dr. Lagowski appointed assistant dean at UT

Dr. Jeanne M. Lagowski has been appointed assistant dean in the Office of Education for the Health Professions in The University of Texas Division of General and Comparative Studies.

"This office is a service center," Dr. Lagowski said of her new position. "I see it as an interface between the student who is interested in a career in health professions, the professional schools' admissions committees and the University faculty members who serve as advisors."

Senior pre-med students advise freshman and sophomore students on routine questions. Unusual problems are referred to Dr. Lagowski for personal counseling.

Special cases may involve students who already have advanced degrees or students who are returning to studies after working for several years.

The pressure of growing competition in all areas of the health professions is illustrated by estimates by the American Association of Medical Schools which indicate that there were about 42,000 applicants for 13,500 places in 1973.

Before coming to the University in 1972 Dr. Lagowski did postdoctoral work at Cambridge University. She has co-authored three books on heterocyclic chemistry.

Cholera case confirmed in Port Lavaca

The first case of cholera in the United States in 62 years, other than laboratory-acquired illness, has been reported in Port Lavaca.

The Center for Disease Control confirmed that the 51-year-old Texas victim was admitted to a local hospital in shock on Aug 25. He had been suffering from diarrhea accompanied by nausea, vomiting, mild abdominal pain, and incapacitating cramps that began in the calves and progressed to both thighs.

Stool cultures obtained on admission were immediately dispatched to the State Health Department Laboratories where preliminary identification was *Vibrio cholerae*. Subsequently, the CDC and The University of Texas confirmed identification as *Vibrio cholerae*, biotype El Tor, serotype Inaba.

The CDC reported that the patient's condition improved within 24 hours and he was discharged a week later. Neither the cause of the case has been traced nor other cases revealed in the area.

According to the CDC the man had had a subtotal gastrectomy in 1972 for long-standing peptic ulcer disease and presumed secondary achlorhydria which probably made him unusually susceptible to infection with this acid-sensitive organism.

Dr. M. S. Dickerson, chief of the Communicable Disease Services of the Texas State Department of Health, said there is no cause for alarm and that the investigation is continuing.

Hospital compiling staff list

John Peter Smith Hospital, Fort Worth, is seeking the names and addresses of former interns, residents and other medical staff members of the hospital and its predecessor, City-County Hospital.

Information should be sent to Robert Eaton, Administrative Assistant, John Peter Smith Hospital, 1500 S Main St, Fort Worth, Tex 76104.

Baylor awards 50 degrees

Baylor College of Medicine held its second medical school graduation of the year Sept 14 in Houston.

Eighty-one medical students, the majority of the college's first class to receive their medical education under the three-year curriculum, participated in the ceremony. Forty-nine of the students actually received their degrees at that time. The others will receive their MD degrees in December. Baylor also conferred one PhD degree at the September commencement.

NEWS

Project requests aid of Texas physicians

The San Ciro Christian Project has requested the aid of Texas physicians in its efforts to provide adequate medical equipment to the Project's clinic serving the San Ciro area in the southeast corner of the state of San Luis Potosi, Mexico.

"We believe that in the back closet of some of those professional offices is some still-usable equipment," project director Jim Shafer said in issuing the request for help. In addition to medical equipment, the Project needs money for other clinic supplies such as bed clothes, linens, chairs, a desk, filing cabinet, typewriter, and so forth.

The Project was initiated as an agricultural and educational program aimed at improving the conditions of the Huasteca Indians in the remote villages of the area. "There are no crafts or arts and the people depend on one poor crop a year to provide for all needs," Mr. Shafer stated.

In the last year the pressing need for a clinic was so overwhelming that the Project undertook to establish one. A small church in the area has been giving volunteer assistance to man the clinic. A donated VW bus is used to take the clinic into the back country.

The collection point for donations is the First Southern Presbyterian Church, Rev. Frank Walker, 200 E Eighth St, Austin, Tex 78701. The Project is nondenominational in scope and donations are tax deductible.

Additional information may be obtained from Jim Shafer, 3661 Southridge, #2077, Austin, Tex 78704.

Huasteca Indian children gather for the unique experience of having their picture taken. Medical care for these children and others in the San Ciro area of Mexico is provided by the San Ciro Christian Project.

Correction

An error appeared in Dr. Terry S. Vincent's article, "Importance of Dilantin Blood Levels in Managing Epilepsy," in the October issue. The sentence beginning on page 67 and continuing to page 68 should read, "The usual blood level range is 10 to 20 μg/ml of plasma."

UNIT VALUES FOR TMA MEMBERS RETIREMENT PLAN AND TRUST

(As a service to participants in the TMA Members Retirement Plan and to physicians interested in enrolling in the program, comparative values for investments are listed. Figures shown are the latest available at press deadline and are for comparison purposes only. Most daily newspapers list up-to-the-minute values on mutual funds.)

Investment media	Original price 9-30-68	Net asset value per share 9-28-73	Net asset value per share 9-28-73[1]
Mercantile National Bank Stock Fund	$10.25	$11.41	$11.41
Loomis-Sayles Capital Development Fund	14.20	13.66	15.30
T. Rowe Price Growth Stock Fund[2]	25.93	14.27	15.94
Loomis-Sayles Mutual Fund	16.82	15.02	18.26
Stein Roe & Farnham Balanced Fund	23.34	21.66	25.12
Mercantile Bank Fixed Income Fund	10.00	11.73	11.73

[1]Adjusted to include dividends and distributions since 9-30-68.

[2]Stock split two for one, May, 1973.

CAPITAL COMMENTS

Editor's note: This new *Texas Medicine* column, prepared by the TMA Office of General Counsel, is designed to highlight current items of interest to physicians relating to health matters in the US Congress, federal agencies, state legislature and Texas administrative agencies.

WASHINGTON: *PSRO*: In early October, a Texas delegation went to Washington to seek support for the position of the Texas Institute of Medical Assessment (TIMA) to have HEW contract for a single statewide PSRO in Texas. Meeting with Texas representatives and senators were representatives from TMA, the Texas Osteopathic Medical Association, Texas Hospital Association, and Texas medical schools. The meeting emphasized that health organizations in Texas were united in their view—that the best planned, least expensive, and most logical method of implementing PSRO in Texas was the TIMA plan. Overwhelming support of this view was voiced by the congressmen.

Senator Lloyd Bentsen (D-Tex), a member of the Senate Finance Committee which has jurisdiction over the PSRO program, was successful in placing an amendment on HR 3153, then before the Senate Finance Committee.

A testimonial to the senator's effective action is that the Senate Finance Committee approved the amendment with the support of Senator Wallace Bennett. (He may have since reversed his position, however.) The amendment reads as follows: "STATEWIDE PSRO ORGANIZATIONS—Section 1152 of the Social Security Act is amended by adding at the end thereof the following new subsection: (g) in carrying out the provisions of this section the Secretary may designate, as an appropriate area with respect to which a Professional Standards Review Organization may be designated, an area encompassing a whole state; and the Secretary shall not refuse to designate any qualified organization as the Professional Standards Review Organization with respect to such area solely because of the number of physicians participating in such organization." The bill will now go to the Senate floor and then back to the House and Senate Conference Committee. Assuming that the amendment remains in the final version and is signed by the President, the HEW will have no valid reason to deny TIMA's proposal solely on the grounds of the 2,500 physician limit.

The Texas physicians were received very well in Washington. Physicians are encouraged to convey their appreciation to their congressmen for listening to TIMA's story.

AUSTIN: *Interim legislative studies*: The Texas Senate Subcommittee on Public Health and Welfare plans to look into a wide range of topics in the area of public health prior to the next session of the Texas Legislature. The Committee will study licensing procedures for nurse's aides and private nursing homes and publicly subsidized day-care centers in addition to licensing procedures of the State Department of Public Welfare. Also listed as possible subjects for committee study were HMOs, drug rehabilitation programs, and alcohol and alcoholism.

The Texas House Insurance Committee plans to study the subject of HMOs and it is possible that this subject will be looked at by the House State Affairs Committee and House Human Resources Committee.

The State Board of Insurance has authorized the LBJ School of Public Affairs to look into HMOs.

WASHINGTON: *HR 4200 Private Pension Bill*: The Senate has passed its version of this bill. Several Senate Finance Committee provisions were removed or revised by the full Senate. It now appears that unless some unexpected development occurs, Congress will not impose rigid restrictions on professional associations. The Senate bill retains a liberalization of the Keogh Plan that would allow a tax deduction on up to $7,500 a year but not more than 15% of the professional's income. The present limits are $2,500 a year and 10% of income.

The initial imposition of a ceiling of $7,500 on the amount upon which a professional association could claim as a tax deferral was removed. The bill in its present form allows tax deferrals on an amount that would finance a pension of up to 75% of an individual's income in his three best paid years with a limitation of $100,000 on the amount of income that could be considered. The basis of 75% of best years of income is a commonly-used standard in many company retirement plans for salaried employees. Under the bill's current provisions the maximum pension benefit permitted a proprietary employee is $75,000. This maximum benefit is to be funded over the remaining working life of the employee but may not be funded over a period of less than 10 years. In the case of a profit-sharing or money-purchase plan, the amount contributed on behalf of a proprietary employee would be subject to limitations which correspond, in substance, to the limitations on contributions made on behalf of proprietary employees under a stated benefit plan. Letters have been written by Dr. Charles B. Dryden, president of TMA, to the two Texas members of the House Ways and Means Committee urging them to retain the increased annual limits on contributions made to retirement plans by self-employed individuals, not to allow any unequal treatment upon professional associations, and if possible remove the arbitrary ceiling of $75,000 on benefits in any one year.

WASHINGTON: *HMO Bill*: The House and Senate conferees are in the process of considering the two chambers' proposals on HMOs (HR 7974 and S 14). The House version calls for spending $60 million this fiscal year, matching an administration request. The bill satisfies many objections raised regarding the original measure by the Administration, the AMA, and TMA. Though no specific number limitation was set in the House bill, the limit of authorization of $240 million probably will provide an effective ceiling on the number of HMOs that could be established. The House Interstate and Foreign Commerce Committee estimated that legislation would be used to bring to the operating state approximately 100 new HMOs. The bill requires a five year cut off for the HMO program. Unlike the Senate bill, the House legislation does not preempt state laws that restrict the formation of HMOs (such as insurance laws and the prohibition of the corporate practice of medicine). The bill limits grants or contracts for planning and initial development costs by prohibiting the assistance after 1976. The bill, unlike the original subcommittee bill has no authority for demonstration grants and contracts for enrollment of the indigent, for providing service in rural medically underserved areas, and for enrollment of high risk individuals. There also is no authority for special project grants and contracts, for grants for HMO management training, and for program evaluation. TMA has communicated its views to the proper congressional committees, and it is expected that the conference committee will compromise on a bill similar to the House-passed version. If this is true, the current status of HMOs in Texas will not change in relation to the current Medical Practice Act.

AMERICAN MEDICAL ASSOCIATION

The AMA Clinical Convention, presenting new dimensions in continuing education, will be held Dec. 1-4, in Anaheim, Calif. The program will offer 30 postgraduate courses, covering new treatments and techniques in most major specialties, six scientific sessions, film symposia, and scientific and industrial exhibits. Also planned is a conference on the current status of professional standards review organizations. There is no registration fee for AMA members and their guests. A $25 fee will be required for non-member physicians, and $5 for guests of non-member physicians.

Contact: AMA, 535 N. Dearborn St., Chicago 60610.

SOUTHWESTERN GYNECOLOGIC ASSEMBLY

Evaluation of recent advances in obstetrics and gynecology will be the subject of the Eighth Annual Meeting of Southwestern Gynecologic Assembly Dec. 6-8, at the Sheraton-Dallas Hotel, Dallas. Objective of the Assembly is to maintain and improve high professional standards, and is designed for the established specialist who desires knowledge of the latest developments in this discipline. Registration fee is $85, and registration must be made in advance.

Contact: Dr. Dennis J. Factor, 3801 Gaston Ave., Suite 204, Dallas 75246, Registration Chairman.

TEXAS ACADEMY OF INTERNAL MEDICINE AND TEXAS SOCIETY OF INTERNAL MEDICINE

The annual meeting of Texas Academy of Internal Medicine, in conjunction with the Texas Society of Internal Medicine, will be Dec. 6, at the Houston Oaks Hotel, Houston. Guest speakers will include members of the faculty of The University of Texas Medical Branch at Galveston, The University of Texas Medical School at Houston, The University of Texas Southwestern Medical School at Dallas, and Baylor College of Medicine, Houston. Also featured on the program is Dr. Thomas H. Ainsworth, Jr., consultant to American Hospital Association, who will speak on "Quality Assurance Program for Medical Care in a Hospital."

Contact: Dr. Tom W. Duke, Texas Academy of Internal Medicine, PO Box 3460, Amarillo 79106, Sec-Treas.

TEXAS SOCIETY OF OPHTHALMOLOGY AND OTOLARYNGOLOGY

The 48th Annual Meeting of Texas Society of Ophthalmology and Otolaryngology is scheduled Dec. 7-8, at the Driskill Hotel, Austin. Guest speakers in ophthalmology will be Dr. Robert Schimek, New Orleans, and Dr. Samuel Kimura, San Francisco. Guest speakers in otolaryngology will be Dr. Kenneth Devine, Rochester, Minn., and Dr. Harold Tabb, New Orleans.

Contact: Dr. Bert A. DeBord, Jr., Scott & White Clinic, Temple 76501, Sec.

COMING MEETINGS

CURRENT MEETINGS IN TEXAS

AMERICAN ASSOCIATION FOR CLINICAL IMMUNOLOGY AND ALLERGY will hold its annual meeting Nov. 29-Dec. 2, at the Hilton Palacio Del Rio Hotel, San Antonio. Theme of the program will be "Self-Assessment and Review in Clinical Immunology and Allergy," and the program will include six examinations on subjects in allergy and clinical immunology. Featured speaker of the program is Dr. Wilbur G. Avery, who will deliver the Stanislaus H. Jaros Lecture on Respiratory Physiology and Diseases as Related to the Practice of Allergy and Immunology. Contact: The American Association for Clinical Immunology and Allergy, PO Box 912 DTS, Omaha, Neb. 68101.

AMERICAN CANCER SOCIETY, TEXAS DIVISION, Executive Committee will meet Dec. 12, at the Hilton Palacio Del Rio Hotel, San Antonio. Other committees meeting prior to the executive committee will be the medical and scientific committee, plans and evaluations committee, legal committee, budget and finance committee, and fellowship committee. Contact: Curt W. Reimann, 5100 Ridge Oak Dr., Austin 78731, Exec. Dir.

AMERICAN COLLEGE OF PHYSICIANS, Texas Regional Meeting, will present a one-day scientific meeting Dec. 7, at the Houston Oaks Hotel, Houston. The meeting is designed to bring physicians up to date on late developments in internal medicine. Contact: Dr. Robert A. Hettig, Baylor College of Medicine, 1200 M.D. Anderson Blvd., Houston 77025.

For other courses and symposiums, see Continuing Education Courses, pp. 55-56.

AMERICAN COLLEGE OF SURGEONS' Committee on Trauma and The University of Texas Southwestern Medical School at Dallas will present a four-day seminar on "Life-Saving Measures for the Critically Injured," Nov. 26-29, at the Hilton Inn, Dallas. The seminar is designed particularly for rural and general practitioners; however, the curriculum is useful also for surgical specialists and internists. Special guest speaker, Richard E. Gray, Dallas attorney, will discuss "Legal Aspects of Emergency Care." Contact: Dr. Ronald C. Jones, The University of Texas Southwestern Medical School, 5323 Harry Hines Blvd., Dallas 75235.

COMMISSION ON PROFESSIONAL AND HOSPITAL ACTIVITIES presents a PAS (Professional Activity Study) and MAP (Medical Audit Program) Regional Workshop Dec. 6, in San Antonio. The program, "How to do Medical Audit Studies," will include a comprehensive review using current editions of the Professional Activity Study and Medical Audit Program. Analysis of health records is demonstrated in medical audit study practice sessions. Registration fee is $40 for PAS hospital members and $55 for non-members. Contact: Commission on Professional and Hospital Activities, 1968 Green Rd., Ann Arbor, Mich. 48105.

HERMANN HOSPITAL's Sixth Annual Alumni Meeting of the Department of Ophthalmology of The University of Texas Medical School at Houston will be held Dec. 15, at Hermann Hospital, Houston. Guest speaker will be Dr. Frederick C. Blodi, Iowa City, Iowa. Contact: Dr. Richard S. Ruiz, Dept. of Ophthalmology, The University of Texas Medical School at Houston, 1121 Hermann Professional Bldg., Houston 77025, Dir.

TEXAS STATE BOARD OF MEDICAL EXAMINERS' next scheduled examination will be held Dec. 3-5, at the Municipal Auditorium, Austin. For more information, contact: Dr. A. Bryan Spires, Jr., 900 Southwest Towers, Austin 78701, Asst. Sec.

CURRENT NATIONAL MEETINGS

AMERICAN ACADEMY OF DERMATOLOGY's 32nd Annual Meeting is set Dec. 1-6, at the Palmer House, Chicago. The sessions will include 128 breakfast and luncheon discussions, 49 seminars, 23 symposia, 9 special courses, a half-day resident's forum, and 2 special lectures. Also scheduled is the presentation of 21 scientific and 140 technical exhibits. Contact: Dr. F. A. J. Kingery, American Academy of Dermatology, 2250 NW Flanders St., Portland, Ore. 97210, Sec-Treas.

AMERICAN ACADEMY OF PSYCHOANALYSIS holds its annual meeting in New York City, Dec. 7-9. Contact: Dr. Jos. Barnett, 8 E. 77th St., New York 10009, Sec.

AMERICAN CANCER SOCIETY's National Conference on Virology and Immunology in Human Cancer will be held Nov. 29-Dec. 1, at the Waldorf-Astoria Hotel, New York. Presentations will be made on research and clinical investigation in virology and immunology and the assessment and implications of this work in the prevention and treatment of human cancer. There is no registration fee. Contact: Dr. Sidney L. Arje, American Cancer Society, Inc., 219 E. 42nd St., New York 10017.

AMERICAN COLLEGE OF PHYSICIANS, New Mexico Regional Meeting, will be held Dec. 7-8, at Airport Marina Hotel, Albuquerque, NM. Contact: Dr. Thomas L. Carr, 719 Parkland Circle, SE, Albuquerque 87108.

AMERICAN SOCIETY OF LAW & MEDICINE announces its second annual symposium on the medicolegal evaluation of disability. This year's program emphasizes orthopedic disorders. The symposium will be Dec. 5, at the Statler Hilton Hotel, Boston. Registration is limited to 300, and registration fee is $12.50 for members, and $15 for non-members. Contact: American Society of Law & Medicine, Inc., 454 Brookline Ave., Boston 02215.

INSTITUTE FOR COMPREHENSIVE MEDICINE is sponsoring a seminar on "Management of Sexual and Marital Inadequacy" Dec. 4-5, at Caesar's Palace, Las Vegas; and Dec. 8-9, at the Los Angeles Hilton, Los Angeles. Topics will include psychology and physiology of sexual response; adolescent and geriatric sexual problems; behavior modification; biofeedback control therapy in sexual inadequacy; compatible divorce; and transsexualism. Contact: M. K. Starrett, 10840 Queensland St., Los Angeles 90034, Registrar.

SOUTHERN SURGICAL ASSOCIATION will sponsor its annual meeting Dec. 3-5, at Hot Springs, Va. Contact: Dr. David C. Sabiston, Jr., Dept. of Surgery, Duke University Medical Center, Durham, NC 27710, Sec.

Calendar of Listings

■ **Denotes Texas Meetings**

JANUARY

AMERICAN ACADEMY OF ALLERGY, Bal Harbour, Fla., Jan. 19-23, 1974. James O. Kelley, 225 E. Michigan, **Milwaukee, Wisc. 53202, Exec. Dir.**

■ AMERICAN ACADEMY OF ORTHOPAEDIC SURGEONS, Dallas, Jan. 17-22, 1974. Charles V. Heck, 430 N. Michigan Ave., Chicago 60611, Exec. Dir.

■ AMERICAN ASSOCIATION OF MEDICAL ASSISTANTS, STATE OF TEXAS, Austin, Jan. 21-22, 1974. Mrs. Maurine Hensley, Rt. 4, Box 250, Tyler 75701, Sec.

■ AMERICAN SOCIETY FOR SURGERY OF THE HAND, Dallas, Jan. 15-17, 1974. Dr. Ray A. Elliott, Jr., 23 Hackett Blvd., Albany, NY 12208, Pub. Com.

SOUTHWEST ALLERGY FORUM, Phoenix, Ariz., Jan. 14-16, 1974. Dr. E. G. Barnet, 550 W. Thomas Rd., Suite 233D, Phoenix 85013, Pres.

■ **TEXAS MEDICAL ASSOCIATION, Austin, Jan. 18-20, 1974. C. Lincoln Williston, 1801 N. Lamar Blvd., Austin 78701, Exec. Sec.**

■ TEXAS SOCIETY OF PATHOLOGISTS, McAllen, Tex., Jan., 1974. Dr. James C. Stinson, Scott & White Clinic, Temple 76501, Sec.

■ UNITED CEREBRAL PALSY ASSOCIATION OF TEXAS, INC., Houston, Jan. 1974. L. D. Harris, 4810 Shoal Creek, Austin 78756.

FEBRUARY

■ AMERICAN ACADEMY OF FORENSIC SCIENCES, Dallas, Feb. 13-16, 1974. Harlan L. Kimball, PO Box 302, New Hartford, Conn. 60657, Exec. Off.

AMERICAN ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE, San Francisco, Feb. 25-Mar. 2, 1974. William Bevan, 1515 Massachusetts Ave., Washington, DC 20005, Exec. Off.

AMERICAN COLLEGE OF CARDIOLOGY, New York City, Feb. 11-15, 1974. Wm. D. Nelligan, 9650 Rockville Pike, Bethesda, Md. 20014.

■ AMERICAN COLLEGE OF SURGEONS, SOUTH TEXAS CHAPTER, Temple, Tex., Feb. 1-2, 1974. Dr. Peter B. Fisher, 615 Medical Towers, Houston 77025, Sec.

AMERICAN HOSPITAL ASSOCIATION, Washington, DC, Feb. 4-7, 1974. James E. Hague, 840 N. Lake Shore Dr., Chicago 60611, Sec.

■ FIRST DISTRICT MEDICAL SOCIETY, El Paso, Feb. 1-2, 1974. Dr. John Emmett, 612 University Towers, El Paso 79902, Sec.

■ INTERNATIONAL MEDICAL ASSEMBLY OF SOUTHWEST TEXAS, San Antonio, Feb. 28-Mar. 1, 1974. S. E. Cockrell, Jr., 202 W. French Pl., San Antonio 78212.

SOCIETY FOR CONTEMPORARY OPHTHALMOLOGY, Miami Beach, Feb. 6-10, 1974. Dr. John G. Bellows, 30 N. Michigan Ave., Chicago 60602, Exec. Dir.

■ TEXAS PUBLIC HEALTH ASSOCIATION, Houston, Feb. 17-20, 1974. Robert E. Monroe, 1117 W. 42nd, No. 201, Austin 78756, Exec. Sec.

MARCH

AMERICAN ASSOCIATION OF PATHOLOGISTS AND BACTERIOLOGISTS, San Francisco, Mar. 9-12, 1974. Robert Learmouth, 9650 Rockville Pike, Bethesda, Md. 20014.

AMERICAN SOCIETY OF ABDOMINAL SURGEONS, Las Vegas, Mar. 29-Apr. 3, 1974. Dr. Blaise F. Alfano, 675 Main St., Melrose, Mass. 02176.

AMERICAN SOCIETY FOR AESTHETIC PLASTIC SURGERY, New Orleans, Mar. 3-7, 1974. Dr. Simon Fredricks, 1103 Medical Towers, Houston 77025.

AMERICAN SOCIETY FOR CLINICAL PHARMACOLOGY AND THERAPEUTICS, Maui, Hawaii, Mar. 24-25, 1974; San Francisco, Mar. 28-29, 1974. Elaine Galasso, 1718 Gallagher Rd., Norristown, Pa. 19401.

■ DALLAS SOUTHERN CLINICAL SOCIETY, Dallas, Mar. 18-20, 1974. Robert L. Heath, 433 Medical Arts Bldg., Dallas 75201.

■ FIFTH DISTRICT MEDICAL SOCIETY, San Antonio, Mar. 1, 1974. S. E. Cockrell, Jr., 202 W. French Pl., San Antonio 78212.

NEW ORLEANS GRADUATE MEDICAL ASSEMBLY, New Orleans, Mar. 11-14, 1974. Dr. Daniel C. Riordan, 1430 Tulane, New Orleans 70112, Pres.

■ NINTH DISTRICT MEDICAL SOCIETY, Sealy, Mar. 21, 1974. Dr. Max M. Diamond, 3332 Plainview, Pasadena 77504, Pres.

■ PRIVATE CLINICS AND HOSPITALS ASSOCIATION OF TEXAS, Houston, Mar. 21-22, 1974. Mrs. Judy Nichols, PO Box 155, Stephenville, Tex., Exec. Sec.

SOCIETY OF NUCLEAR MEDICINE, SOUTHWEST CHAPTER, Oklahoma City, Mar. 15-17, 1974. Dr. Thomas P. Haynie, 6723 Bertner, Houston 77025, Sec-Treas.

■ TEXAS ASSOCIATION OF OBSTETRICIANS AND GYNECOLOGISTS, Galveston, Mar. 8-9, 1974. Dr. Dennis M. Voulgaris, 2100 N. Fulton, Wharton, Tex. 77488, Sec.

■ TEXAS RADIOLOGICAL SOCIETY, San Antonio, Mar. 21-23, 1974. Dr. Francis E. O'Neill, 1128 Nix Prof. Bldg., San Antonio 78205, Sec-Treas.

APRIL

AMERICAN ACADEMY OF FACIAL PLASTIC AND RECONSTRUCTIVE SURGERY, Palm Beach, Fla., Apr. 20-22, 1974. Dr. Carl N. Patterson, 1110 W. Main St., Durham, NC, Exec. Off.

AMERICAN ACADEMY OF NEUROLOGY, San Francisco, Apr. 22-27, 1974. Stanley A. Nelson, 4005 W. 65th St., Minneapolis, Minn. 55435, Exec. Dir.

AMERICAN ASSOCIATION OF ANATOMISTS, Cleveland, Apr. 1-4, 1974. Dr. John E. Pauly, Dept. of Anatomy, University of Arkansas Medical Center, Little Rock 72201.

AMERICAN ASSOCIATION FOR THORACIC SURGERY, Las Vegas, Apr. 22-24, 1974. William T. Maloney, AATS, 6 Beacon St., Suite 620, Boston 02108, Exec. Sec.

AMERICAN COLLEGE OF ALLERGISTS, Paris, France, Apr. 16-24, 1974. Dr. John D. Gillaspie, 2141 14th St., Boulder, Colo., Sec.-Treas.

■ AMERICAN COLLEGE HEALTH ASSOCIATION, Dallas, Apr. 2-5, 1974. James W. Dilley, 2807 Central, Evanston, Ill. 60201, Exec. Dir.

AMERICAN COLLEGE OF OBSTETRICIANS AND GYNECOLOGISTS, Las Vegas, Apr. 29, 1974. Dr. Michael Newton, One E. Wacker Dr., Chicago 60601, Exec. Dir.

AMERICAN COLLEGE OF PHYSICIANS, New York, Apr. 1-5, 1974. Dr. Edward C. Rosenow, Jr., ACP, 4200 Pine St., Philadelphia 19104, Exec. VPres.

AMERICAN COLLEGE OF RADIOLOGY, New Orleans, Apr. 1-5, 1974. William C. Stronach, 20 N. Wacker Dr., Room 2920, Chicago 60606, Exec. Dir.

INDUSTRIAL MEDICAL ASSOCIATION, Miami Beach, Apr. 28-May 2, 1974. Howard N. Schulz, 150 N. Wacker Dr., Chicago 60606, Exec. Dir.

SOUTHWESTERN SURGICAL CONGRESS, Monterey, Calif., Apr. 29-May 2, 1974. Dr. Jack A. Barney, 708 Physicians & Surgeons Bldg., Oklahoma City 73103, Sec-Treas.

■ TEXAS DENTAL ASSOCIATION, Dallas, Apr. 28-May 1, 1974. Dr. Joe C. Carrington, Jr., 4920 N. Interregional Hwy., Austin 78751.

■ TEXAS UROLOGICAL SOCIETY, Fort Worth, Apr. 4-6, 1974. Dr. Hugh Lamensdorf, PO Box 11340, Fort Worth 76109, Sec.

MAY

AEROSPACE MEDICAL ASSOCIATION, Washington, DC, May 6-9, 1974. Dr. Merrill H. Goodwin, ASMA, Washington National Airport, Washington, DC 20001, Exec. Sec.

■ AMERICAN COLLEGE OF CHEST PHYSICIANS, TEXAS CHAPTER, Houston, May 1974. Dr. Byron N. Dooley, 7711 Louis Pasteur, San Antonio 78229, Pres.

AMERICAN GASTROENTEROLOGICAL ASSOCIATION, San Francisco, May 19-25, 1974. Charles B. Slack, 6900 Grove Rd., Thorofare, NJ 08086, Exec. Sec.

■ AMERICAN PHYSICAL THERAPY ASSOCIATION, TEXAS CHAPTER, Galveston, May 24-26, 1974. Geraldine Midgley, PO Box 1287, Uvalde 78801, Exec. Sec.

AMERICAN PSYCHIATRIC ASSOCIATION, Detroit, May 6-10, 1974. Dr. Walter E. Barton, 1700 18th St., NW, Washington, DC 20009, Med. Dir.

■ AMERICAN PSYCHIATRIC ASSOCIATION, TEXAS DISTRICT BRANCH, Houston, May 11, 1974. Mrs. Iris Wenzel, 1801 N. Lamar Blvd., Austin 78701, Exec. Sec.

AMERICAN SOCIETY OF COLON AND RECTAL SURGEONS, Washington, DC, May 22-25, 1974. Ms. Harriette Gibson, 320 W. Lafayette, Detroit, Mich. 48226, Admin. Sec.

AMERICAN SOCIETY OF INTERNAL MEDICINE, San Francisco, May 2-5, 1974. William R. Ramsey, 535 Central Tower Bldg., Third and Market Sts., San Francisco 94103, Exec. Dir.

AMERICAN THORACIC SOCIETY, Cincinnati, Ohio, May 12-15, 1974. Robert G. Weymueller, 1749 Broadway, New York 10019, Exec. Dir.

AMERICAN UROLOGICAL ASSOCIATION, St. Louis, Mo., May 19-23, 1974. Richard J. Hannigan, 1120 N. Charles St., Baltimore, Md. 21201, Exec. Off.

■ CONFERENCE OF CITY AND COUNTY HEALTH OFFICERS, Houston, May, 1974. Dr. J. E. Peavy, Commissioner of Health, Texas State Dept. of Health, 1100 W. 49th St., Austin 78756.

■ TEXAS AIR-MEDICS ASSOCIATION, Houston, May 9, 1974. Dr. C. F. Miller, PO Box 1338, Waco 78203, Sec-Treas.

■ TEXAS ASSOCIATION OF PHYSICIANS IN NUCLEAR MEDICINE, Houston, May, 1974. Dr. Robert W. Parkey, 5323 Harry Hines, Dallas 78235, Sec.

■ TEXAS DIABETES ASSOCIATION, Houston, May, 1974. Dr. Eric A. Orzeck, 918 Medical Towers, Houston 77025.

■ TEXAS MEDICAL ASSOCIATION, Houston, May 8-12, 1974. C. Lincoln Williston, 1801 N. Lamar Blvd., Austin 78701, Exec. Sec.

■ TEXAS OTOLARYNGOLOGICAL ASSOCIATION, Houston, May, 1974. Dr. John W. Youngblood, 505 Medical Park Tower, Austin 78705, Sec.

■ TEXAS PROCTOLOGIC SOCIETY, Houston, May 9, 1974. Dr. W. Bailey, 712 N. Washington, Dallas 75246.

■ TEXAS RHEUMATISM ASSOCIATION, Houston, May, 1974. Dr. J. E. Norris, 6448 Fannin, Houston 77025, Pres.

■ TEXAS SOCIETY OF ANESTHESIOLOGISTS, Houston, May, 1974. Dr. Cecil R. Glass, 2525 Calder Ave., Beaumont 77702, Sec.

■ TEXAS SOCIETY OF ATHLETIC TEAM PHYSICIANS, Houston, May 10, 1974. Dr. Bobby L. Stafford, 8 Medical Dr., Amarillo 79106, Sec.

■ TEXAS SOCIETY OF PLASTIC SURGEONS, Houston, May 9-11, 1974. Dr. Jeff Moore, PO Box 3755, Amarillo 79106, Sec.

JUNE

AMERICAN DIABETES ASSOCIATION, Atlanta, Ga., June 15-16, 1974. J. Richard Connelly, American Diabetes Association, 18 E. 48th St., New York 10017, Exec. Dir.

AMERICAN NEUROLOGICAL ASSOCIATION, Boston, June 10-12, 1974. Dr. Samuel A. Trufant, Cincinnati General Hospital, Cincinnati, Ohio 45229, Sec.

AMERICAN PHYSICAL THERAPY ASSOCIATION, Montreal, Can., June 14-22, 1974. Royce P. Noland, 1156 15th St. NW, Washington, DC 20005, Exec. Dir.

ENDOCRINE SOCIETY, Atlanta, Ga., June 12-14, 1974. Mrs. Marcella M. Branch, 1141 Classen Blvd., Suite 319, Oklahoma City 73106, Exec. Sec.

■ MEDICAL LIBRARY ASSOCIATION, San Antonio, June 2-4, 1974. John S. LoSasso, Medical Library Association, 919 N. Michigan, Suite 3208, Chicago 60611, Exec. Dir.

acute arthritic inflammation...heat that freezes

In acute rheumatoid arthritis consider Tandearil. The anti-inflammatory action of Tandearil quickly helps reduce heat, pain, swelling, and stiffness. Results are usually seen in 3 or 4 days. Try it for a week when the symptoms defy aspirin control.

Remember that Tandearil is not a simple analgesic. It should not be used on patients responding to routine therapy. Before using, please read the prescribing information. It's summarized below.

Tandearil® helps take the heat off

oxyphenbutazone NF

Geigy

Tablets of 100 mg.

Important Note: This drug is not a simple analgesic. Do not administer casually. Carefully evaluate patients before starting treatment and keep them under close supervision. Obtain a detailed history, and complete physical and laboratory examination (complete hemogram, urinalysis, etc.) before prescribing and at frequent intervals thereafter. Carefully select patients, avoiding those responsive to routine measures, contraindicated patients or those who cannot be observed frequently. Warn patients not to exceed recommended dosage. Short-term relief of severe symptoms with the smallest possible dosage is the goal of therapy. Dosage should be taken with meals or a full glass of milk. Patients should discontinue the drug and report immediately any sign of: fever, sore throat, oral lesions (symptoms of blood dyscrasia); dyspepsia, epigastric pain, symptoms of anemia, black or tarry stools or other evidence of intestinal ulceration or hemorrhage, skin reactions, significant weight gain or edema. A one-week trial period is adequate. Discontinue in the absence of a favorable response. Restrict treatment periods to one week in patients over sixty.

Indications: Acute gouty arthritis, rheumatoid arthritis, rheumatoid spondylitis.

Contraindications: Children 14 years or less; senile patients; history or symptoms of G.I. inflammation or ulceration including severe, recurrent or persistent dyspepsia; history or presence of drug allergy; blood dyscrasias; renal, hepatic or cardiac dysfunction; hypertension; thyroid disease; systemic edema; stomatitis and salivary gland enlargement due to the drug; polymyalgia rheumatica and temporal arteritis; patients receiving other potent chemotherapeutic agents, or long-term anticoagulant therapy.

Warnings: Age, weight, dosage, duration of therapy, existence of concomitant diseases, and concurrent potent chemotherapy affect incidence of toxic reactions. Carefully instruct and observe the individual patient, especially the aging (forty years and over) who have increased susceptibility to the toxicity of the drug. Use lowest effective dosage. Weigh initially unpredictable benefits against potential risk of severe, even fatal, reactions. The disease condition itself is unaltered by the drug. Use with caution in first trimester of pregnancy and in nursing mothers. Drug may appear in cord blood and breast milk. Serious, even fatal, blood dyscrasias, including aplastic anemia, may occur suddenly despite regular hemograms, and may become manifest days or weeks after cessation of drug. Any significant change in total white count, relative decrease in granulocytes, appearance of immature forms, or fall in hematocrit should signal immediate cessation of therapy and complete hematologic investigation. Unexplained bleeding involving CNS, adrenals, and G.I. tract has occurred. The drug may potentiate action of insulin, sulfonylurea, and sulfonamide-type agents. Carefully observe patients taking these agents. Nontoxic and toxic goiters and myxedema have been reported (the drug reduces iodine uptake by the thyroid). Blurred vision can be a significant toxic symptom worthy of a complete ophthalmological examination. Swelling of ankles or face in patients under sixty may be prevented by reducing dosage. If edema occurs in patients over sixty, discontinue drug.

Precautions: The following should be accomplished at regular intervals: Careful detailed history for disease being treated and detection of earliest signs of adverse reactions; complete physical examination including check of patient's weight; complete weekly (especially for the aging) or an every two week blood check; pertinent laboratory studies. Caution patients about participating in activity requiring alertness and coordination, as driving a car, etc. Cases of leukemia have been reported in patients with a history of short- and long-term therapy. The majority of these patients were over forty. Remember that arthritic-type pains can be the presenting symptom of leukemia.

Adverse Reactions: This is a potent drug; its misuse can lead to serious results. Review detailed information before beginning therapy. Ulcerative esophagitis, acute and reactivated gastric and duodenal ulcer with perforation and hemorrhage, ulceration and perforation of large bowel, occult G.I. bleeding with anemia, gastritis, epigastric pain, hematemesis, dyspepsia, nausea, vomiting and diarrhea, abdominal distention, agranulocytosis, aplastic anemia, hemolytic anemia, anemia due to blood loss including occult G.I. bleeding, thrombocytopenia, pancytopenia, leukemia, leukopenia, bone marrow depression, sodium and chloride retention, water retention and edema, plasma dilution, respiratory alkalosis, metabolic acidosis, fatal and nonfatal hepatitis (cholestasis may or may not be prominent), petechiae, purpura without thrombocytopenia, toxic pruritus, erythema nodosum, erythema multiforme, Stevens-Johnson syndrome, Lyell's syndrome (toxic necrotizing epidermolysis), exfoliative dermatitis, serum sickness, hypersensitivity angiitis (polyarteritis), anaphylactic shock, urticaria, arthralgia, fever, rashes (all allergic reactions require prompt and permanent withdrawal of the drug), proteinuria, hematuria, oliguria, anuria, renal failure with azotemia, glomerulonephritis, acute tubular necrosis, nephrotic syndrome, bilateral renal cortical necrosis, renal stones, ureteral obstruction with uric acid crystals due to uricosuric action of drug, impaired renal function, cardiac decompensation, hypertension, pericarditis, diffuse interstitial myocarditis with muscle necrosis, perivascular granulomata, aggravation of temporal arteritis in patients with polymyalgia rheumatica, optic neuritis, blurred vision, retinal hemorrhage, toxic amblyopia, retinal detachment, hearing loss, hyperglycemia, thyroid hyperplasia, toxic goiter, association of hyperthyroidism and hypothyroidism (causal relationship not established), agitation, confusional states, lethargy; CNS reactions associated with overdosage, including convulsions, euphoria, psychosis, depression, headaches, hallucinations, giddiness, vertigo, coma, hyperventilation, insomnia; ulcerative stomatitis, salivary gland enlargement.

(B)98-146-800-F (10/71)

For complete details, including dosage, please see full prescribing information.

GEIGY Pharmaceuticals
Division of CIBA-GEIGY Corporation
Ardsley, New York 10502

TA 9041

More than sleep.

your choice of sleep medication is wisely based on more than sleep-inducing potential

sleep with relative safety

Chronic tolerance studies have confirmed the relative safety of Dalma (flurazepam HCl); no depression of cardiac or respiratory funct was noted in patients administered recommended or higher do for as long as 90 consecutive nights.

In most instances when adverse reactions were reported, they were mild, infrequent and seldom quired discontinuance of therapy. Morning "hang-over" with Dalmane has been relatively infrequent. Di ness, drowsiness, lightheadedness and the like have been the side effects noted most frequently, particularly in the elderly and debilitated. (An initial dose of Dalmane 15 mg should be prescribed for these patients.)

sleep for 7 to 8 hour without need to repeat dosage

No sleep me cation has been as rigorously evaluated in the sleep research laboratory as Dalmane. Insomnia patie given one 30-mg capsule of Dalmane at bedtime, on average: fell asleep within 17 minutes, had fewer nig time awakenings, spent less time awake after sleep onset, and slept for 7 to 8 hours with no need to rep dosage during the night.

leep with
onsistency

Dalmane has been shown to be consistently effective even during consecutive nights of administration, with no need to increase dosage.

Dalmane (flurazepam HCl) is a distinctive sleep medication—a nzodiazepine specifically indicated for insomnia. It is not a barurate or methaqualone, nor is it related chemically to any other ilable hypnotic.

When your evaluation of insomnia indicates the need for a sleep dication, consider Dalmane—a single entity nonnarcotic, nonbiturate agent proved effective and relatively safe for relief of omnia.

DALMANE®
(flurazepam HCl)

When restful sleep is indicated

One 30-mg capsule *h.s.*—usual adult dosage
(15 mg may suffice in some patients)
One 15-mg capsule *h.s.*—initial dosage for elderly or debilitated patients.

Before prescribing Dalmane (flurazepam HCl), please consult Complete Product Information, a summary of which follows:

Indications: Effective in all types of insomnia characterized by difficulty in falling asleep, frequent nocturnal awakenings and/or early morning awakening; in patients with recurring insomnia or poor sleeping habits; and in acute or chronic medical situations requiring restful sleep. Since insomnia is often transient and intermittent, prolonged administration is generally not necessary or recommended

Contraindications: Known hypersensitivity to flurazepam HCl

Warnings: Caution patients about possible combined effects with alcohol and other CNS depressants. Caution against hazardous occupations requiring complete mental alertness (*e.g.*, operating machinery, driving). Use in women who are or may become pregnant only when potential benefits have been weighed against possible hazards. Not recommended for use in persons under 15 years of age. Though physical and psychological dependence have not been reported on recommended doses, use caution in administering to addiction-prone individuals or those who might increase dosage

Precautions: In elderly and debilitated, initial dosage should be limited to 15 mg to preclude oversedation, dizziness and/or ataxia. If combined with other drugs having hypnotic or CNS-depressant effects, consider potential additive effects. Employ usual precautions in patients who are severely depressed, or with latent depression or suicidal tendencies Periodic blood counts and liver and kidney function tests are advised during repeated therapy. Observe usual precautions in presence of impaired renal or hepatic function.

Adverse Reactions: Dizziness, drowsiness, lightheadedness, staggering, ataxia and falling have occurred, particularly in elderly or debilitated patients. Severe sedation, lethargy, disorientation and coma, probably indicative of drug intolerance or overdosage, have been reported. Also reported were headache, heartburn, upset stomach, nausea, vomiting, diarrhea, constipation, GI pain, nervousness, talkativeness, apprehension, irritability, weakness, palpitations, chest pains, body and joint pains and GU complaints There have also been rare occurrences of sweating, flushes, difficulty in focusing, blurred vision, burning eyes, faintness, hypotension, shortness of breath, pruritus, skin rash, dry mouth, bitter taste, excessive salivation, anorexia, euphoria, depression, slurred speech, confusion, restlessness, hallucinations, and elevated SGOT, SGPT, total and direct bilirubins and alkaline phosphatase. Paradoxical reactions, *e.g.*, excitement, stimulation and hyperactivity, have also been reported in rare instances

Dosage: Individualize for maximum beneficial effect. *Adults:* 30 mg usual dosage; 15 mg may suffice in some patients. *Elderly or debilitated patients:* 15 mg initially until response is determined

Supplied: Capsules containing 15 mg or 30 mg flurazepam HCl

ROCHE

ROCHE LABORATORIES
Div., Hoffmann-La Roche Inc.
Nutley, New Jersey 07110

The Weight of Professional Opinion

It's time for action to defend the laws and regulations that protect your patients against drug substitution.

These professional and trade organizations are united in supporting antisubstitution statutes and regulations

The American Academy of Dermatolog

The Board of Directors of the American Academy of Family Physicians

The Executive Board of the American Academy of Neurology

The Committee on Drugs of the American Academy of Pediatrics

The American College of Allergists

The Executive Committee of the American College of Obstetricians and Gynecologists

The Board of Regents of the American College of Physicians

The Board of Trustees of the American Dental Association

The Board of Trustees of the American Medical Association

The American Psychiatric Associati

The Executive Committee of the National Association of Retail Druggists

The Board of Directors of the Pharmaceutical Manufacturers Association

The National Wholesale Druggists' Association

ɔint Statement on Antisubstitution Laws and Regulations

The purpose of this statement is) affirm the support of the participat- ıg organizations for the laws, regula- ɔns and professional traditions which rohibit the unauthorized substitution f drug products.

Traditionally, physicians, den- sts and pharmacists have worked ɔoperatively to serve the best inter- sts of patients. Productive coopera- on has been achieved through ıutual respect as well as a common ɔncern for the ideals of public ervice. This mutual respect has been eflected, in part, by joint support ver the years for the adoption and nforcement of laws and regulations ɔecifically prohibiting unauthorized ubstitution and encouraging joint iscussion and selection of the ɔurce of supply of drug products. he basic principles of medical, den- al and pharmacy practice are thus tilized and preserved in the interest f patient welfare.

The antisubstitution laws have ot obstructed enhancement of the rofessional status of pharmacy any ıore than they have in and of them- elves guaranteed absolute protec- on from unsafe drugs, or freed hysicians, dentists and pharmacists om their responsibilities to patients. s a practical matter, however, such ıws and regulations encourage inter- rofessional communications regard- ıg drug product selection and assure ach profession the opportunity to xercise fully its expertise in drug sage, to the advantage of patients.

Physicians and dentists should e urged to increase the frequency nd regularity of their contacts with harmacists in selection of quality rug products, recognizing that economies to patients can be improved through such communication, taking into account the patients' needs. The pharmacist's knowledge of the chemical characteristics of drugs, their mode of action, toxic properties and other characteristics that assist in making drug selection decisions should be utilized to the fullest extent practicable by physicians and dentists in serving their patients.

Since drug product selection entails knowledge derived from clinical experience, the physician's and dentist's roles in product selection remain primary and do not permit delegation of decisions requiring medical and dental judgments. A broader role in therapy will evolve for pharmacists as improved understanding and cooperation among the professions continue to grow.

There has been no evidence that there are convincing reasons to modify or repeal existing laws and regulations prohibiting the unauthorized substitution of another drug product for the one specified by a prescriber. It is our belief that such laws and regulations merit the joint support of the medical, dental and pharmaceutical professions and the pharmaceutical industry.

Add your opinion to the weight of other professionals and send it to your state assemblyman or legislator.

Pharmaceutical Manufacturers Association
1155 Fifteenth Street, N.W., Washington, D. C. 20005

ROCHE announces new BACTRIM™

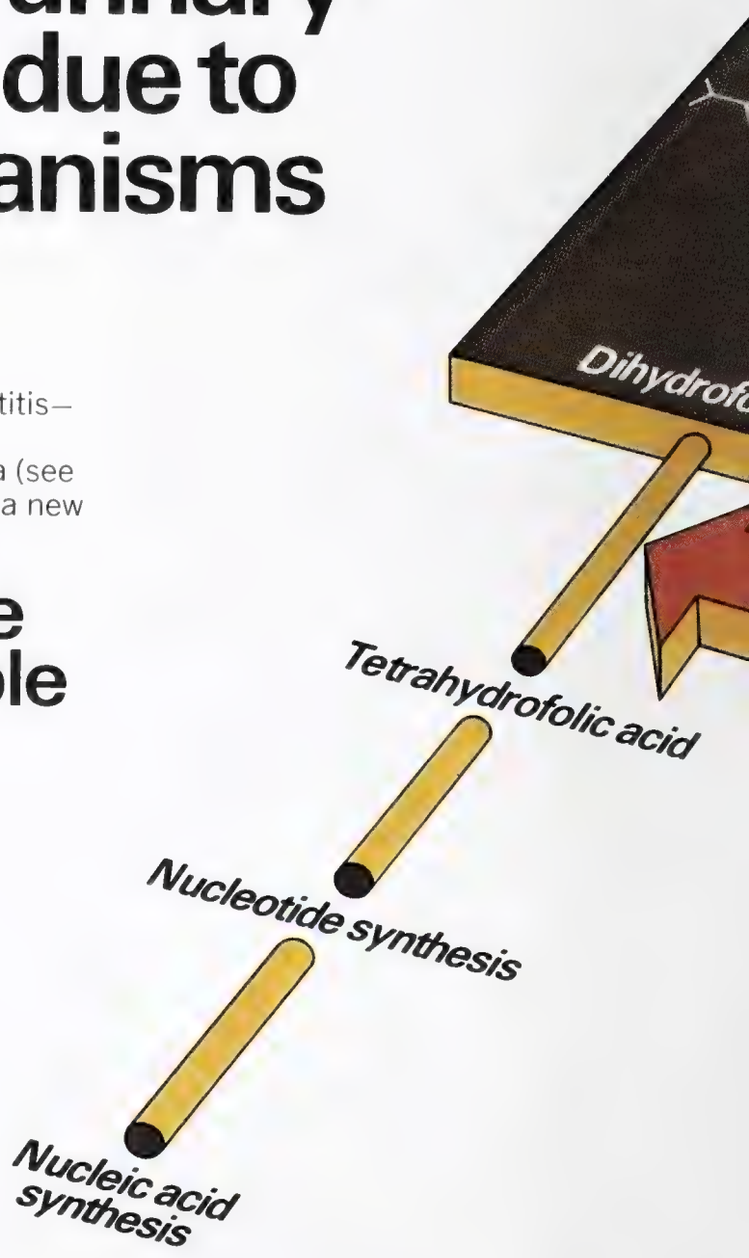
Each tablet contains 80 mg trimethoprim and 400 mg sulfamethoxazole.

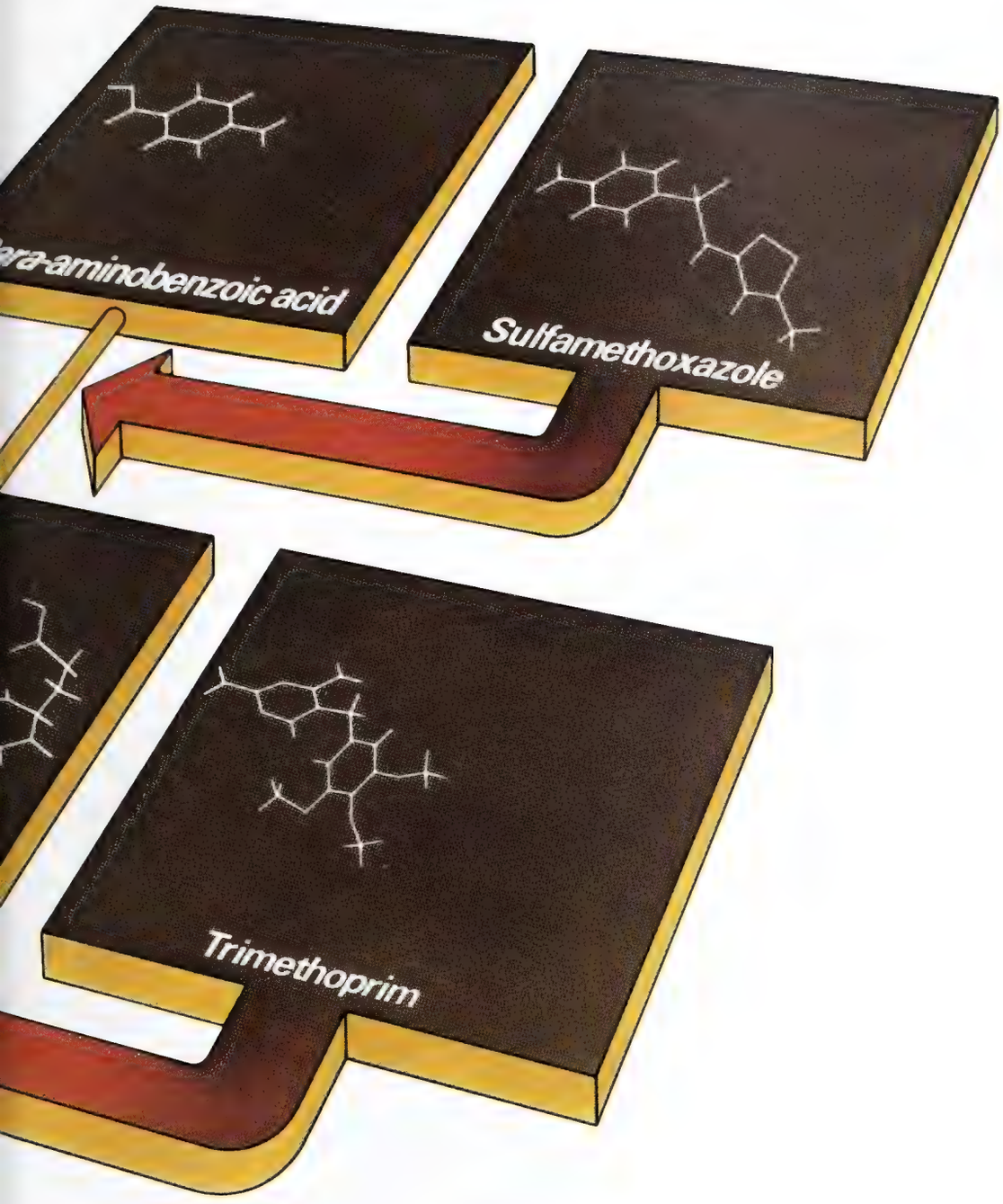
a new type of antibacterial for a two-pronged attack against chronic urinary tract infections due to susceptible organisms

Bactrim is highly effective in the treatment of these infections—primarily pyelonephritis, pyelitis and cystitis—when due to susceptible organisms. This efficacy is related to the unique mode of action against bacteria (see illustration), an action that, in effect, makes Bactrim a new type of antibacterial.

Bactrim interrupts the life cycle of susceptible bacteria

Unique mode of action interrupts the life cycle at two important points, thereby impeding the production of nucleic acids and proteins essential to these bacteria. These consecutive interruptions occur because sulfamethoxazole and trimethoprim resemble naturally existing substrates. By competitive replacement of these substrates, they inhibit further synthesis.





ROCHE

new **BACTRIM**™

Each tablet contains 80 mg trimethoprim and 400 mg sulfamethoxazole.

for chronic urinary tract infections

Before prescribing, please see complete product information on last page of advertisement.

Excellent clinical response in chronic urinary tract infections even with obstructive complications

A multiclinic, double-blind study* of response to a ten-day course of therapy in 471† patients with chronic urinary tract infections demonstrated the superiority of Bactrim. On the 10th day after initiation of therapy, 91.7% (of 168 patients) showed significant bacteriological response to Bactrim, compared with 81.2% (of 144 patients) to trimethoprim and 64.5% (of 155 patients) to sulfamethoxazole. More than half of these patients had obstructive complications.

Excellent response maintained

Bactrim proved equally impressive in maintaining this bacteriological response. In the above study, after a ten-day course of therapy with Bactrim, 68.4% of patients with chronic urinary tract infections *maintained* response for up to 42 consecutive days, compared with 59.7% with trimethoprim and 44.4% with sulfamethoxazole. These results are particularly noteworthy considering the number of patients with obstructive complications—cases regarded as being notoriously difficult to treat.

Prescribing considerations

Clinical Limitations: Currently, the increasing frequency of resistant organisms is a limitation of the usefulness of all antibacterial agents, especially in the treatment of chronic and recurrent urinary tract infections. Not recommended for children under twelve.

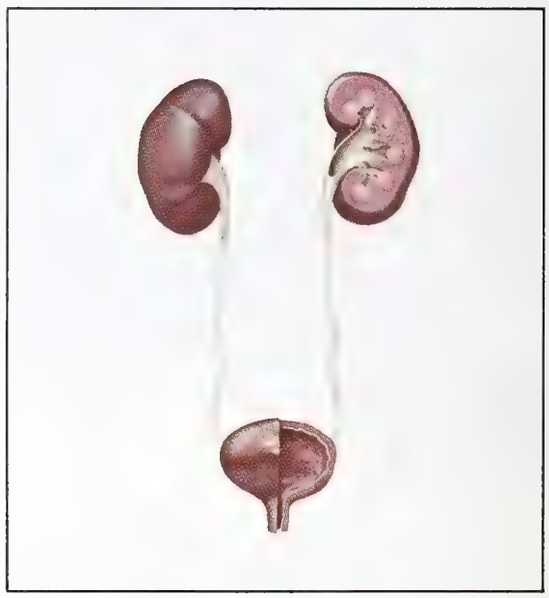
Contraindications: Hypersensitivity to trimethoprim or sulfonamides. Pregnancy and during the nursing period.

Warnings and Precautions: Both sulfamethoxazole and trimethoprim have been reported to interfere with hematopoiesis. Complete blood counts should be done frequently. If a significant reduction in the count of any formed blood element is noted, Bactrim should be discontinued. Bactrim should be given with caution to patients with impaired renal or hepatic function, possible folate deficiency, severe allergy or bronchial asthma. Maintain adequate fluid intake. Urinalyses with careful microscopic examination and renal function tests should be performed during therapy, particularly for those patients with impaired renal function.

Adverse Effects: Among the most common side effects are nausea, vomiting, rash, leukopenia and elevations in SGOT and creatinine.

Usual adult dosage: two tablets every twelve hours for 10 to 14 days; no loading dose required.

*Data on file, Hoffmann-La Roche Inc., Nutley, N.J. 07110
†4 patients not available for evaluation at day 10.



new **BACTRIM**™

Each tablet contains 80 mg trimethoprim and 400 mg sulfamethoxazole.

for chronic urinary tract infections

ROCHE

Roche Laboratories
Division of Hoffmann-La Roche Inc
Nutley, N.J. 07110

Before prescribing, please consult complete product information on facing page.

Complete Product Information:

Description: Bactrim is a synthetic antibacterial combination product, available in scored light-green tablets, each containing 80 mg trimethoprim and 400 mg sulfamethoxazole.

Trimethoprim is 2,4-diamino-5-(3,4,5-trimethoxybenzyl) pyrimidine. It is a white to light-yellow, odorless, bitter compound with a molecular weight of 290.3.

Sulfamethoxazole is N^1-(5-methyl-3-isoxazolyl) sulfanilamide. It is an almost white in color, odorless, tasteless compound with a molecular weight of 253.28.

Actions: *Microbiology:* Sulfamethoxazole inhibits bacterial synthesis of dihydrofolic acid by competing with *para*-aminobenzoic acid. Trimethoprim blocks the production of tetrahydrofolic acid from dihydrofolic acid by binding to and reversibly inhibiting the required enzyme, dihydrofolate reductase. Thus, Bactrim blocks two consecutive steps in the biosynthesis of nucleic acids and proteins essential to many bacteria.

In vitro studies have shown that bacterial resistance develops more slowly with Bactrim than with trimethoprim or sulfamethoxazole alone.

In vitro serial dilution tests have shown that the spectrum of antibacterial activity of Bactrim includes the common urinary tract pathogens with the exception of *Pseudomonas aeruginosa*. The following organisms are usually susceptible: *Escherichia coli, Klebsiella-Enterobacter, Proteus mirabilis* and indole-positive proteus species.

Representative Minimum Inhibitory Concentration Values for Bactrim-Susceptible Organisms
(MIC—mcg/ml)

Bacteria	Trimethoprim alone	Sulfamethoxazole alone	TMP/SMX (1:20) TMP	TMP/SMX (1:20) SMX
Escherichia coli	0.05—1.5	1.0 —245	0.05—0.5	0.95— 9.5
Proteus spp. indole positive	0.5 —5.0	7.35 —300	0.05—1.5	0.95—28.5
Proteus mirabilis	0.5 —1.5	7.35 — 30	0.05—0.15	0.95— 2.85
Klebsiella-Enterobacter	0.15—5.0	0.735—245	0.05—1.5	0.95—28.5

Human Pharmacology: Bactrim is rapidly absorbed following oral administration. The blood levels of trimethoprim and sulfamethoxazole are similar to those achieved when each component is given alone. Peak blood levels for the individual components occur one to four hours after oral administration. The half-lives of sulfamethoxazole and trimethoprim, 10 and 16 hours respectively, are relatively the same regardless of whether these compounds are administered as individual components or as Bactrim. Detectable amounts of trimethoprim and sulfamethoxazole are present in the blood 24 hours after drug administration. Free sulfamethoxazole and trimethoprim blood levels are proportionately dose-dependent. On repeated administration, the steady-state ratio of trimethoprim to sulfamethoxazole levels in the blood is about 1:20.

Sulfamethoxazole exists in the blood as free, conjugated and protein-bound forms; trimethoprim is present as free, protein-bound and metabolized forms. The free forms are considered to be the therapeutically active forms. Approximately 44 percent of trimethoprim and 70 percent of sulfamethoxazole are protein-bound in the blood. The presence of 10 mg percent sulfamethoxazole in plasma decreases the protein binding of trimethoprim to an insignificant degree; trimethoprim does not influence the protein binding of sulfamethoxazole.

Excretion of Bactrim is chiefly by the kidneys through both glomerular filtration and tubular secretion. Urine concentrations of both sulfamethoxazole and trimethoprim are considerably higher than are the concentrations in the blood. When administered together as in Bactrim, neither sulfamethoxazole nor trimethoprim affects the urinary excretion pattern of the other.

Indications: Chronic urinary tract infections (primarily pyelonephritis, pyelitis and cystitis) due to susceptible organisms (usually *E. coli, Klebsiella-Enterobacter, Proteus mirabilis,* and, less frequently, indole-positive proteus species).

Important note: **Currently, the increasing frequency of resistant organisms is a limitation of the usefulness of all antibacterial agents, especially in the treatment of chronic and recurrent urinary tract infections.**

Contraindications: Hypersensitivity to trimethoprim or sulfonamides. Pregnancy and during the nursing period (see Reproduction Studies).

Warnings: Deaths associated with the administration of sulfonamides have been reported from hypersensitivity reactions, agranulocytosis, aplastic anemia and other blood dyscrasias. Experience with trimethoprim alone is much more limited, but it has been reported to interfere with hematopoiesis in occasional patients. In elderly patients concurrently receiving certain diuretics, primarily thiazides, an increased incidence of thrombopenia with purpura has been reported.

The presence of clinical signs such as sore throat, fever, pallor, purpura or jaundice may be early indications of serious blood disorders. Complete blood counts should be done frequently in patients receiving Bactrim. If a significant reduction in the count of any formed blood element is noted, Bactrim should be discontinued.

At the present time, there is insufficient clinical information on the use of Bactrim in infants and children under 12 years of age to recommend its use.

Precautions: Bactrim should be given with caution to patients with impaired renal or hepatic function, to those with possible folate deficiency and to those with severe allergy or bronchial asthma. In glucose-6-phosphate dehydrogenase-deficient individuals, hemolysis may occur. This reaction is frequently dose-related. Adequate fluid intake must be maintained in order to prevent crystalluria and stone formation. Urinalyses with careful microscopic examination and renal function tests should be performed during therapy, particularly for those patients with impaired renal function.

Adverse Reactions: For completeness, all major reactions to sulfonamides and to trimethoprim are included below, even though they may not have been reported with Bactrim.

Blood dyscrasias: Agranulocytosis, aplastic anemia, megaloblastic anemia, thrombopenia, leukopenia, hemolytic anemia, purpura, hypoprothrombinemia and methemoglobinemia.

Allergic reactions: Erythema multiforme, Stevens-Johnson syndrome, generalized skin eruptions, epidermal necrolysis, urticaria, serum sickness, pruritus, exfoliative dermatitis, anaphylactoid reactions, periorbital edema, conjunctival and scleral injection, photosensitization, arthralgia and allergic myocarditis.

Gastrointestinal reactions: Glossitis, stomatitis, nausea, emesis, abdominal pains, hepatitis, diarrhea and pancreatitis.

C.N.S. reactions: Headache, peripheral neuritis, mental depression, convulsions, ataxia, hallucinations, tinnitus, vertigo, insomnia, apathy, fatigue, muscle weakness and nervousness.

Miscellaneous reactions: Drug fever, chills, and toxic nephrosis with oliguria and anuria. Periarteritis nodosa and L. E. phenomenon have occurred.

The sulfonamides bear certain chemical similarities to some goitrogens, diuretics (acetazolamide and the thiazides) and oral hypoglycemic agents. Goiter production, diuresis and hypoglycemia have occurred rarely in patients receiving sulfonamides. Cross-sensitivity may exist with these agents. Rats appear to be especially susceptible to the goitrogenic effects of sulfonamides, and long-term administration has produced thyroid malignancies in the species.

Dosage and Administration: Not recommended for use in children under 12 years of age.

The usual adult dosage is two tablets every 12 hours for 10 to 14 days.

For patients with renal impairment:

Creatinine Clearance (ml/min)	Recommended Dosage Regimen
Above 30	Usual standard regimen
15-30	2 tablets every 24 hours
Below 15	Use not recommended

How Supplied: Tablets, containing 80 mg trimethoprim and 400 mg sulfamethoxazole—bottles of 100 and 500; Tel-E-Dose® packages of 1000; Prescription Paks of 40, available singly and in trays of 10. Imprint on tablets: ROCHE 50.

Reproduction Studies: In rats, doses of 533 mg/kg sulfamethoxazole or 200 mg/kg trimethoprim produced teratological effects manifested mainly as cleft palates. The highest dose which did not cause cleft palates in rats was 512 mg/kg sulfamethoxazole or 192 mg/kg trimethoprim when administered separately. In two studies in rats, no teratology was observed when 512 mg/kg of sulfamethoxazole was used in combination with 128 mg/kg of trimethoprim. However, in one study, cleft palates were observed in one litter out of 9 when 355 mg/kg of sulfamethoxazole was used in combination with 88 mg/kg of trimethoprim.

In rabbits, trimethoprim administered by intubation from days 8 to 16 of pregnancy at dosages up to 500 mg/kg resulted in higher incidences of dead and resorbed fetuses, particularly at 500 mg/kg. However, there were no significant drug-related teratological effects.

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Each tablet contains 80 mg trimethoprim and 400 mg sulfamethoxazole.

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The *text* should be narrative with complete sentences, *few abbreviations*, and logical subheading. For *spelling and usage* the editors follow "Dorland's Illustrated Medical Dictionary," 24th edition, and "Webster's Third New International Dictionary, Unabridged." *Quotations* must give credit to both author and source. A concise *introductory summary* is required.

Reference lists should contain in this order (1) author's last name, initials, (2) title of article or book, (3) name of journal, (4) volume and inclusive page numbers, written 33:156-160, (5) year. For books, the title should be followed by place of publication, name of publisher, and year.

Illustrations should be black and white drawings or positive photographs, with neat, uniform, fairly large lettering. A label pasted to the back of each illustration should indicate its number, top, author's name, and title of article in brief. *Legends* should be in complete sentences, numbered, and typed on a separate sheet. *Color illustrations* are authorized if they are of special value.

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PUBLICATION INFORMATION

Texas Medicine is published monthly by the Texas Medical Association.

Contributions, previously unpublished, are welcomed for review. News and other items should be sent to the Editorial Offices by the 5th of the month preceding the month of publication. All contributions are sent at the owner's risk.

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Indications: Based on a review of PREMARIN Tablets by the National Academy of Sciences-National Research Council and/or other information, FDA has classified the indications for use as follows:
Effective: As replacement therapy for naturally occurring or surgically induced estrogen deficiency states associated with: the climacteric, including the menopausal syndrome and postmenopause; senile vaginitis and kraurosis vulvae, with or without pruritus.
"Probably" effective: For estrogen deficiency-induced osteoporosis, and only when used in conjunction with other important therapeutic measures such as diet, calcium, physiotherapy, and good general health-promoting measures. Final classification of this indication requires further investigation.

Contraindications: Short acting estrogens are contraindicated in patients with (1) markedly impaired liver function; (2) known or suspected carcinoma of the breast, except those cases of progressing disease not amenable to surgery or irradiation occurring in women who are at least 5 years postmenopausal; (3) known or suspected estrogen-dependent neoplasia, such as carcinoma of the endometrium; (4) thromboembolic disorders, thrombophlebitis, cerebral embolism, or in patients with a past history of these conditions; (5) undiagnosed abnormal genital bleeding.
Warnings: Estrogen therapy should not be given to women with recurrent chronic mastitis or abnormal mammograms except, if in the opinion of the physician, it is warranted despite the possibility of aggravation of the mastitis or stimulation of undiagnosed estrogen-dependent neoplasia.

The physician should be alert to the earliest manifestations of thrombotic disorders (thrombophlebitis, retinal thrombosis, cerebral embolism and pulmonary embolism). If these occur or are suspected, estrogen therapy should be discontinued immediately.

Estrogens may be excreted in the mother's milk and an estrogenic effect upon the infant has been described. The long range effect on the nursing infant cannot be determined at this time.

Hypercalcemia may occur in as many as 15 percent of breast cancer patients with metastases, and this usually indicates progression of bone metastases. This occurrence depends neither on dose nor on immobilization. In the presence of progression of the cancer or hypercalcemia, estrogen administration should be stopped.

A statistically significant association has been reported between maternal ingestion of diethylstilbestrol during pregnancy and the occurrence of vaginal carcinoma in the offspring. This occurred with the use of diethylstilbestrol for the treatment of threatened abortion or high risk pregnancies. Whether or not such an association is applicable to all estrogens is not known at this time. In view of this finding, however, the use of any estrogen in pregnancy is not recommended.

Failure to control abnormal uterine bleeding or unexpected recurrence is an indication for curettage.
Precautions: As with all short acting estrogens, the following precautions should be observed:

A complete pretreatment physical examination should be performed with special reference to pelvic and breast examinations.

To avoid prolonged stimulation of the endometrium and breasts in climacteric or hypogonadal women, estrogens should be administered cyclically (3 week regimen with 1 week rest period—withdrawal bleeding may occur during rest period).

Because of individual variation in endogenous estrogen production, relative overdosage may occur which could cause undesirable effects such as abnormal or excessive uterine bleeding, mastodynia and edema.

Because of salt and water retention associated with estrogenic anabolic activity, estrogens should be used with caution in patients with epilepsy, migraine, asthma, cardiac, or renal disease.

If unexplained or excessive vaginal bleeding should occur, reexamination should be made for organic pathology.

Pre-existing uterine fibromyomata may increase in size while using estrogens; therefore, patients should be examined at regular intervals while receiving estrogenic therapy.

The pathologist should be advised of estrogen therapy when relevant specimens are submitted.

Because of their effects on epiphyseal closure, estrogens should be used judiciously in young patients in whom bone growth is incomplete.

Prolonged high dosages of estrogens will inhibit anterior pituitary functions. This should be borne in mind when treating patients in whom fertility is desired.

The age of the patient constitutes no absolute limiting factor, although treatment with estrogens may mask the onset of the climacteric.

Certain liver and endocrine function tests may be affected by exogenous estrogen administration. If test results are abnormal in a patient taking estrogen, they should be repeated after estrogen has been withdrawn for one cycle.
Adverse Reactions: The following adverse reactions have been reported associated with short acting estrogen administration:
nausea, vomiting, anorexia
gastrointestinal symptoms such as abdominal cramps and bloating
breakthrough bleeding, spotting, unusually heavy withdrawal bleeding (See DOSAGE AND ADMINISTRATION)
breast tenderness and enlargement
reactivation of endometriosis
possible diminution of lactation when given immediately postpartum
loss of libido and gynecomastia in males
edema
aggravation of migraine headaches
change in body weight (increase, decrease)
headache
allergic rash
hepatic cutaneous porphyria becoming manifest
Dosage and Administration: PREMARIN should be administered cyclically (3 weeks of daily estrogen and 1 week off) for all indications except selected cases of carcinoma and prevention of postpartum breast engorgement.

Menopausal Syndrome—1.25 mg. daily, cyclically. Adjust dosage upward or downward according to severity of symptoms and response of the patient. For maintenance, adjust dosage to lowest level that will provide effective control.

If the patient has not menstruated within the last two months or more, cyclic administration is started arbitrarily. If the patient is menstruating, cyclic administration is started on day 5 of bleeding. If breakthrough bleeding (bleeding or spotting during estrogen therapy) occurs, increase estrogen dosage as needed to stop bleeding. In the following cycle, employ the dosage level used to stop breakthrough bleeding in the previous cycle. In subsequent cycles, the estrogen dosage is gradually reduced to the lowest level which will maintain the patient symptom-free.

Postmenopause—as a protective measure against estrogen deficiency-induced degenerative changes (*e.g.* osteoporosis, atrophic vaginitis, kraurosis vulvae)—0.3 mg. to 1.25 mg. daily and cyclically. Adjust dosage to lowest effective level.

Osteoporosis (to retard progression)—usual dosage 1.25 mg. daily and cyclically.

Senile Vaginitis, Kraurosis Vulvae with or without Pruritus—0.3 mg. to 1.25 mg. or more daily, depending upon the tissue response of the individual patient. Administer cyclically.
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CONTRAINDICATIONS: Hypersensitivity to any of the tetracyclines.
WARNINGS: Tetracycline usage during tooth development (last half of pregnancy to eight years) may cause permanent tooth discoloration (yellow-gray-brown), which is more common during long-term use but has occurred after repeated short-term courses. Enamel hypoplasia has also been reported. **Tetracyclines should not be used in this age group unless other drugs are not likely to be effective or are contraindicated.**
Usage in pregnancy. (See above **WARNINGS** about use during tooth development.)
Animal studies indicate that tetracyclines cross the placenta and can be toxic to the developing fetus (often related to retardation of skeletal development). Embryotoxicity has also been noted in animals treated early in pregnancy.
Usage in newborns, infants, and children. (See above **WARNINGS** about use during tooth development.)
All tetracyclines form a stable calcium complex in any bone-forming tissue. A decrease in fibula growth rate observed in prematures given oral tetracycline 25 mg/kg every 6 hours was reversible when drug was discontinued.
Tetracyclines are present in milk of lactating women taking tetracyclines.
To avoid excess systemic accumulation and liver toxicity in patients with impaired renal function, reduce usual total dosage and, if therapy is prolonged, consider serum level determinations of drug. The anti-anabolic action of tetracyclines may increase BUN. While not a problem in normal renal function, in patients with significantly impaired function, higher tetracycline serum levels may lead to azotemia, hyperphosphatemia, and acidosis.
Photosensitivity manifested by exaggerated sunburn reaction has occurred with tetracyclines. Patients apt to be exposed to direct sunlight or ultraviolet light should be so advised, and treatment should be discontinued at first evidence of skin erythema.
PRECAUTIONS: If superinfection occurs due to overgrowth of nonsusceptible organisms, including fungi, discontinue antibiotic and start appropriate therapy.
In venereal disease, when coexistent syphilis is suspected, perform darkfield examination before therapy, and serologically test for syphilis monthly for at least four months.
Tetracyclines have been shown to depress plasma prothrombin activity; patients on anticoagulant therapy may require downward adjustment of their anticoagulant dosage.
In long-term therapy, perform periodic organ system evaluations (including blood, renal, hepatic).
Treat all Group A beta-hemolytic streptococcal infections for at least 10 days.
Since bacteriostatic drugs may interfere with the bactericidal action of penicillin, avoid giving tetracycline with penicillin
ADVERSE REACTIONS: Gastrointestinal (oral and parenteral forms): anorexia, nausea, vomiting, diarrhea, glossitis, dysphagia, enterocolitis, inflammatory lesions (with monilial overgrowth) in the anogenital region.
Skin: maculopapular and erythematous rashes; exfoliative dermatitis (uncommon). Photosensitivity is discussed above (See **WARNINGS**).
Renal toxicity: rise in BUN, apparently dose related (See **WARNINGS**).
Hypersensitivity: urticaria, angioneurotic edema, anaphylaxis, anaphylactoid purpura, pericarditis, exacerbation of systemic lupus erythematosus.
Bulging fontanels, reported in young infants after full therapeutic dosage, have disappeared rapidly when drug was discontinued.
Blood: hemolytic anemia, thrombocytopenia, neutropenia, eosinophilia.
Over prolonged periods, tetracyclines have been reported to produce brown-black microscopic discoloration of thyroid glands; no abnormalities of thyroid function studies are known to occur
USUAL DOSAGE: Adults—600 mg daily, divided into two or four equally spaced doses. More severe infections: an initial dose of 300 mg followed by 150 mg every six hours or 300 mg every 12 hours. Gonorrhea: In uncomplicated gonorrhea, when penicillin is contraindicated, 'Rondomycin' (methacycline HCl) may be used for treating both males and females in the following clinical dosage schedule: 900 mg initially, followed by 300 mg q.i.d. for a total of 5.4 grams.
For treatment of syphilis, when penicillin is contraindicated, a total of 18 to 24 grams of 'Rondomycin' (methacycline HCl) in equally divided doses over a period of 10-15 days should be given. Close follow-up, including laboratory tests, is recommended.
Eaton Agent pneumonia: 900 mg daily for six days.
Children—3 to 6 mg/lb/day divided into two to four equally spaced doses.
Therapy should be continued for at least 24-48 hours after symptoms and fever have subsided
Concomitant therapy: Antacids containing aluminum, calcium or magnesium impair absorption and are contraindicated. Food and some dairy products also interfere. Give drug one hour before or two hours after meals. Pediatric oral dosage forms should not be given with milk formulas and should be given at least one hour prior to feeding.
In patients with renal impairment (see **WARNINGS**), total dosage should be decreased by reducing recommended individual doses or by extending time intervals between doses.
In streptococcal infections, a therapeutic dose should be given for at least 10 days.
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That's not all. In another important change, the AMA's council-committee structure has been streamlined. Some councils and committees have been dropped. Others have been made more efficient by reducing their size to seven members for councils and five for committees. And to permit more frequent infusion of new members and ideas, maximum tenure of service has been reduced to seven and five years, respectively.

The AMA *has* made a lot of changes. Changes to make it more responsive to the ideas of *all* physicians . . . changes to make it more effectively serve the needs of the profession.

Change will continue. But it will be decided only by those of you interested and dedicated enough to be a force in that change.

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an open letter to physicians about an American epidemic

Dear Doctor,

Nine million Americans are suffering from an illness called alcoholism. Some of them are your patients. As you know, alcoholism is one of the three most prevalent illnesses. And it can be treated as successfully as the other two . . . provided that it is diagnosed, and the treatment is made available.

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First, help bring it out in the open. The silent treatment has been tried for years. It hasn't worked.

Second, diagnose alcoholism as alcoholism. And help the alcoholic patient accept that diagnosis. Help him see it as a medical problem; not a moral problem or a weakness in his character.

Third, support medical research on alcoholism. It's too big an illness to receive so little attention.

Fourth, we have literature that may help you help your patients. Write Texas Commission on Alcoholism, 809 Sam Houston State Office Bldg., Austin, Texas 78701.

A public service message presented by the Texas Medical Association in cooperation with The National Institute on Alcohol Abuse and Alcoholism, and the Texas Commission on Alcoholism.

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DECEMBER

Auscultation of the Heart: This course, sponsored by The University of Texas Medical School at San Antonio, will offer the pertinent physiology and pathophysiology for the production of heart sounds and heart murmurs with concomitant presentation of these sounds using a cardiosimulator. Each enrollee will participate in an analysis of these findings using individual stethophones. The course will be held in San Antonio Dec. 8-9, and is acceptable for 10 hours AAFP and Category 1, AMA Physician's Recognition Award. Contact: Dr. Paul Cutler, The University of Texas Medical School at San Antonio, 7703 Floyd Curl Dr., San Antonio 78284.

Board Examinations: The Texas State Board of Medical Examiners will give examinations Dec. 3-5 in the Municipal Auditorium, Austin. Contact: Dr. A. Bryan Spires, Jr., Texas State Board of Medical Examiners, 900 Southwest Towers, Austin 78701.

Cardiology: A clinical cardiology symposium will be sponsored by The University of Texas Health Science Center at Houston at St. Joseph Hospital, Houston, Dec. 3-6. The course is accredited by the AAFP and will use case presentations and lectures as teaching methods. Contact: Dr. Grant Taylor, Dean, Division of Continuing Education, The University of Texas Health Science Center at Houston, PO Box 20367, Houston 77025.

Cardiology: Rapid changes in cardiac catheterization techniques and methods of evaluation will be the theme of a postgraduate course sponsored by the American College of Chest Physicians Nov 30-Dec 1, in Santa Barbara, Calif. The course is co-sponsored by the Santa Barbara Heart and Lung Institute. In addition to formal presentations, small group sessions will provide exposure to catherization techniques, with emphasis on ventricular volumes, ultrasound and the application of all these parameters in the assessment of ventricular function. Details of how to perform the technique, as well as personal calculations of raw data, their interpretations and applications will be discussed and experimented with in the smaller groups. For registration and fee information, contact: Director of Continuing Education, American College of Chest Physicians, 112 E. Chestnut St., Chicago 60611.

Glaucoma: The University of Texas Health Science Center at Houston will present a Glaucoma Symposium Dec. 14, in the South Auditorium of Hermann Hospital, Houston. Discussions on various types of glaucoma operations and the complications thereof will be held, including a general panel discussion for the presentation of problem cases. Contact: Office of the Director, The University of Texas Health Science Center at Houston, Division of Continuing Education, PO Box 20367, Houston 77025.

Ophthalmology: A Glaucoma Symposium, presented by The University of Texas Health Science Center at Houston, will discuss several different glaucoma surgical procedures that have been developed in the last three years. The program will be held Dec 14 in the South Auditorium of Hermann Hospital. Speakers will be Dr. John Lynn, Dallas; Dr. Richard Simmons, Boston; Dr. William Layden, Tampa, Fla.; and Dr. Robert Stewart, Houston. Also included in the program will be a general panel discussion for the presentation of problem cases. Contact: Office of the Director, The University of Texas Health Science Center at Houston, Division of Continuing Education, PO Box 20367, Houston 77025.

Perinatology: The Department of Pediatrics, University of Miami School of Medicine presents a symposium in perinatology Dec 7-8, at the University of Miami School of Medicine. Enrollment is limited to 130, and advance registration is requested no later than Nov 30. Fee is $25. Contact: Division of Continuing Education, University of Miami School of Medicine, PO Box 875, Biscayne Annex, Miami 33152.

Pulmonary Disease: The 10th Annual New Orleans International Postgraduate Course for Physicians on "Pulmonary Function in Health and Disease" will be held Dec. 3-6 at Louisiana State University School of Medicine, New Orleans. The course is sponsored by American Thoracic Society, Louisiana Thoracic Society, American College of Chest Physicians, Louisiana State University School of Medicine, Tulane University School of Medicine, Alton Ochsner Medical Foundation, and American Lung Association of Louisiana. Topics to be discussed are Spirometry and Lung Volumes; Pulmonary Mechanics with Emphasis on Small Airways Function; Ventilation Perfusion Relationships; Tests of Pulmonary Mechanics including Body Plethysmography; Closing Volume; and Flow Volume Curves. Tuition: $135, MD's and PhD's; $85, allied health personnel; and $110, members of American Thoracic Society. Contact: W. Findley Raymond, Louisiana Thoracic Society, Suite 1504, 333 St. Charles Ave., New Orleans 70130.

Toxicology: A symposium titled "Advances in Analytical Toxicology" will be presented on Dec. 3-5 at the White Hall Hotel, Houston. The 1st Annual Symposium, presented by the Institute of Clinical Toxicology, Houston, will cover six specific areas of current interest to laboratories. Papers will be presented on the following topics: Street Drug Analysis Programs; Emergency Drug Analysis Programs; Rapid Screening Procedures; Analytical Problems Faced by the Medical Examiner; Role of the Laboratory in Monitoring Drug Abuse Treatment Programs; and Laboratory Proficiency Monitoring. Registration fees: $75 prior to Nov. 19; $100 after Nov. 19. Contact: Institute of Clinical Toxicology, PO Box 2565, Houston 77001.

Urologic Pathology: The Department of

Pathology, Baylor College of Medicine, will offer a course in Urologic Pathology designed for urologists who are preparing to become American board certified. It will meet one afternoon per week from November through January, and tuition is $300. Contact: Dr. Joyce S. Davis, Department of Pathology, Baylor College of Medicine, 1200 Moursund, Houston 77025.

JANUARY

Medicine: The University of Texas Medical Branch at Galveston will present a course on the history and philosophy of medicine Jan 17-18. Speakers will be Dr. H. Tristram Engelhardt, Jr., assistant professor of philosophy of medicine, and Dr. Chester R. Burns, both from The University of Texas Medical Branch at Galveston. Contact: Dr. H. Tristram Engelhardt, Jr., The University of Texas Medical Branch, Galveston 77550.

Obstetrics and Gynecology: The Mike Hogg Intensive Review in Obstetrics and Gynecology, being held Jan 24-26, at St. Joseph Hospital, Houston, will cover recent developments in obstetrics and gynecology. A review of various topics intended for the practicing physician and candidates for the American Board of Obstetrics and Gynecology examinations will also be presented. Contact: Office of the Director, The University of Texas Health Science Center at Houston, Division of Continuing Education, PO Box 20367, Houston 77025.

Obstetrics and Gynecology: The Department of Obstetrics and Gynecology of The University of Texas Medical School at San Antonio will sponsor a postgraduate course Jan 24-30 on current obstetric and gynecologic practice. The course will be given in three parts, gynecologic pathophysiology and oncology; gynecologic endocrinology and genetics; and obstetrical pathophysiology; and is designed primarily as an aid to candidates for the American Board of Obstetrics and Gynecology examination. Enrollment is limited to 150, and fee is $250. Contact: Dr. C. J. Pauerstein, Dept. Ob-Gyn, The University of Texas Medical School at San Antonio, 7703 Floyd Curl Dr., San Antonio 78284.

Ophthalmology: A basic science course in ophthalmology, sponsored by The University of Texas Health Science Center at Houston, lasts eight weeks and is primarily for residents in training. The next course is scheduled for Jan 7-Mar 1, 1974. Instruction is by lectures supplemented with laboratory sessions. Visual aids will be used to reproduce clinical entities, and ophthalmic equipment is available for demonstration and instruction. Enrollment is limited, and tuition for the course is $575. For more information, contact: Office of the Director, The University of Texas Health Science Center at Houston, Division of Continuing Education, PO Box 20367, Houston 77025.

Pediatrics: A seminar in pediatric nephrology entitled "Current Concepts in Diagnosis and Management" is being sponsored by the Division of Pediatric Nephrology, Department of Pediatrics, University of Miami School of Medicine, Jan 2-5. Pathogenesis, pathology, clinico-pathological correlations, functional derangements and treatment of glomerulopathies, structural defects and infections, and chronic uremia will be emphasized during the seminar. Tuition is $125. Contact: Division of Continuing Education, University of Miami School of Medicine, PO Box 875, Biscayne Annex, Miami 33152.

FEBRUARY

Cardiology: "Cardiologic Perspectives for the Internist: 1974" is the title of a course being cosponsored by Baylor College of Medicine, Houston, and the American College of Physicians. The course is scheduled for Feb 27-Mar 1, in Houston, and is designed to give the general internist and cardiologist an overview of the current management practices of patients with coronary artery disease, hypertensive vascular disease, and cardiopulmonary disease. Registration fee is $100 for members of American College of Physicians, and $150 for nonmembers. Associate fee is $50. Contact: The American College of Physicians, 4200 Pine St., Philadelphia 19104.

MARCH

Disease: The physiological basis of clinical disease will be the subject of a course presented by the American College of Physicians and The University of Texas Southwestern Medical School at Dallas. It will be held at the Marriott Motor Hotel Mar 4-7, and the pathophysiology of hypertension, diabetes mellitus, pulmonary disorders, cardiovascular disease, and the disorders of the immunologic system, as well as liver diseases and gastroenterologic derangements, will be covered in the course. Member fee is $120; nonmembers, $175; and associate, $60. Contact: The American College of Physicians, 4200 Pine St., Philadelphia 19104.

Pathology: The Houston Society of Clinical Pathologists, in conjunction with Baylor College of Medicine, Houston, will present its 14th Annual Seminar entitled "Current Problems in Liver Disease" on Mar 30, 1974. The seminar will be held in the Main Auditorium, Baylor College of Medicine. Subjects to be discussed include viral hepatitis, hepatitis-associated antigen testing, clinical aspects and pathology of chronic active hepatitis, clinical aspects and pathology of primary biliary cirrhosis, hepatic tumors, and clinical laboratory testing in liver disease. Registration fee is $50. Contact: Dr. Jack L. Titus, Baylor College of Medicine, Texas Medical Center, Houston 77025, Seminar Chairman.

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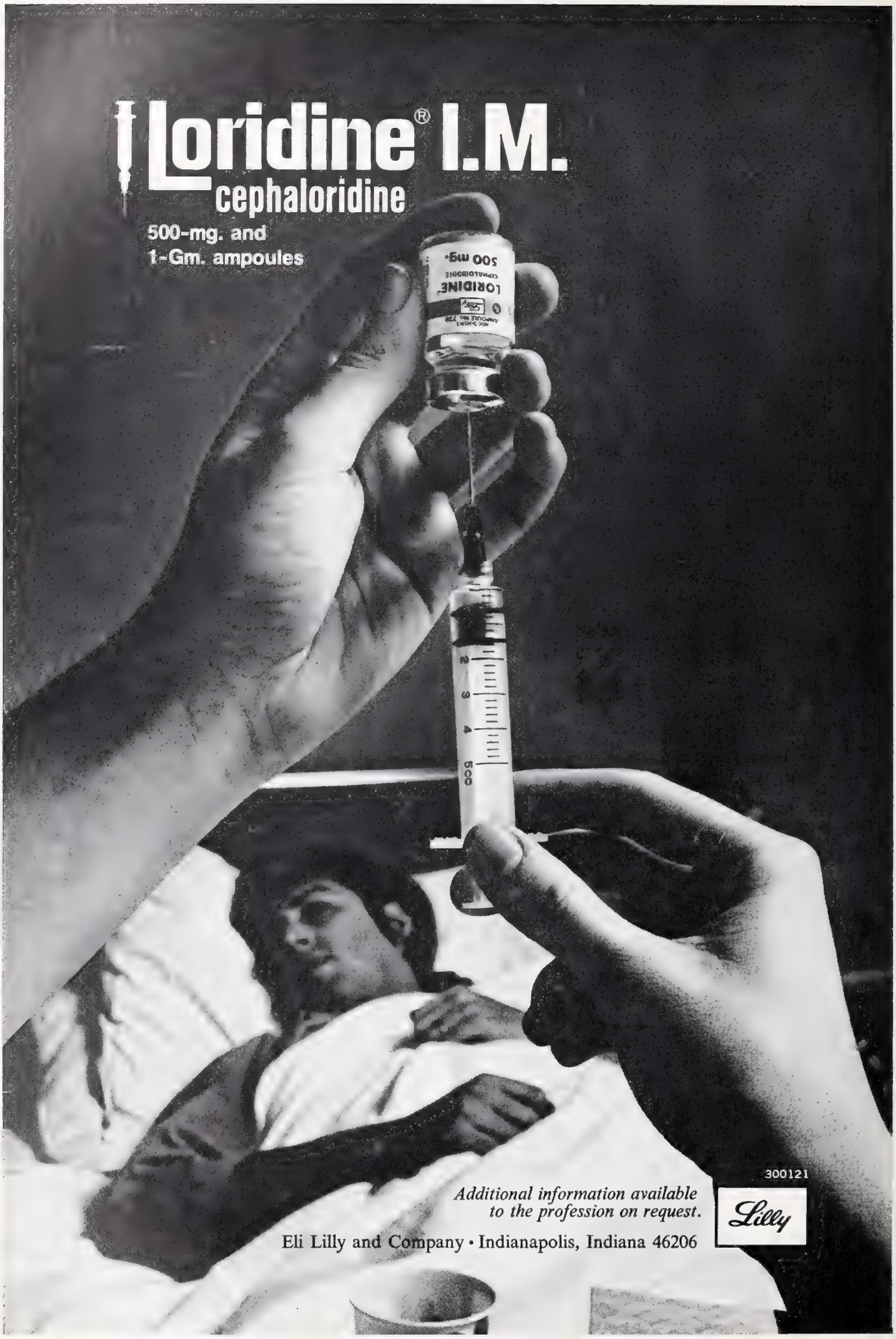
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Immunologic procedures relevant to allergy

Amanullah Khan, MD, PhD

The specialty of allergy extends into many other fields such as otorhinology, dermatology, neurology, botany, psychiatry, pulmonary diseases, and chemistry. Immunology is the field that is the most closely related to the understanding of basic mechanisms and management of allergy. Immunology has undergone far reaching and extensive developments during the past two decades. This, in turn, has helped to provide more knowledge about the basic mechanisms of allergy and provided better understanding of the allergic phenomenon. Therefore, allergists must keep abreast of the developments in immunology and utilize them for unraveling the mysteries of atopic phenomenon in a systematic manner.

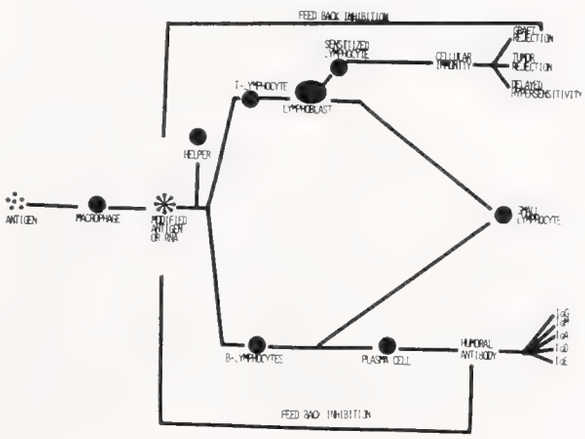
Mechanism of Immune Responses

Fig 1 shows a schematic diagram of immune responses. The role of macrophages in immunology is still being explored, but they do play a definite and important part in the immune responses.[1,2] There is evidence that they may process the antigen in a manner so as to make it more immunogenic, or they may synthesize an immune RNA which will further direct the lymphocytes. The role of macrophages is not very specific. The macrophages taken from a normal or a tolerant animal process the antigen in a similar manner.[2,3] From this step onwards, the immune response is dominated by the lymphocytes.

Stem cells for lymphoid tissue are derived from the bone marrow in human beings. Some of these cells spend part of their life in the thymus and are called thymus dependent lymphocytes, or T lymphocytes. A part of the cell population goes directly from the bone marrow to the peripheral blood and other lymphatic tissues. These cells are thought to be equivalent to bursa of Fabricius derived lymphocytes in chicken, or B lymphocytes. These two types of cells do not work as entirely separate units, rather they cooperate with each other.[4-6] The exact nature of the cooperation is still being explored,[7] but it is becoming apparent that a subpopulation of the T lymphocytes acts as helpers. This role is especially important where the dose of the antigen may be small, or in the case of an antigen which has fewer antigenic determinants.[8,9] This function may be performed by the secretion of a diffusible substance.[10] In short, it appears that the T lymphocytes, in addition to a specific function such as mediation of cellular immunity, also have a definite influence on the humoral immune responses and may work cooperatively as helper cells in the induction of antibody responses. Experiments are in progress leading to further purification and separation of lymphocytes. This will help in the recognition of different subclasses of T cells with separate functions.

From this stage of sensitization onwards, the cells differentiate and prepare themselves for isolated functions. B cells produce antibodies and the excretory cells for specific immunoglobulins—the plasma

1. Diagrammatic representation of sequence of events during various immune responses.



cells. The initial response is IgM globulin with subsequent production of 7S immunoglobulin or IgG. Similarly, IgA, IgD, and IgE are also produced. The stimulation of thymus-dependent, or T lymphocytes, results in sensitized cells which are capable of mediating responses such as delayed hypersensitivity, graft versus host reaction, tumor specific immunity, and graft rejection.

Hypersensitivity Reactions

Patients exhibiting either one or both of these responses are seen in the practice of allergy. Atopic cases show a response due to IgE or a reaginic antibody. The cases showing reactions due to drugs and haptens or haptenic portions of the drugs are liable to give cellular or both types of immune responses. A thorough understanding of the entire immune process and utilization of the available tools is, therefore, necessary for proper evaluation of these patients.

Responses which are dominated by the B cells are mediated by the antibodies as discussed earlier. The antibodies of interest to the allergist belong to IgE, IgG, and IgM class. IgG and IgM type of antibodies, in addition to giving serum sickness and arthus type of reactivity, are important in desensitization, which is in fact a misnomer. Hyperimmunization or immunotherapy will probably be a more appropriate term.

The Fc fragments or the heavy chains contain the antigenic properties of the immunoglobulin which are unique to each class. Therefore, while preparing antisera against various immunoglobulins, it is important to have antisera which are specific for this segment, otherwise cross reactions will be encountered.

Test for Antibodies

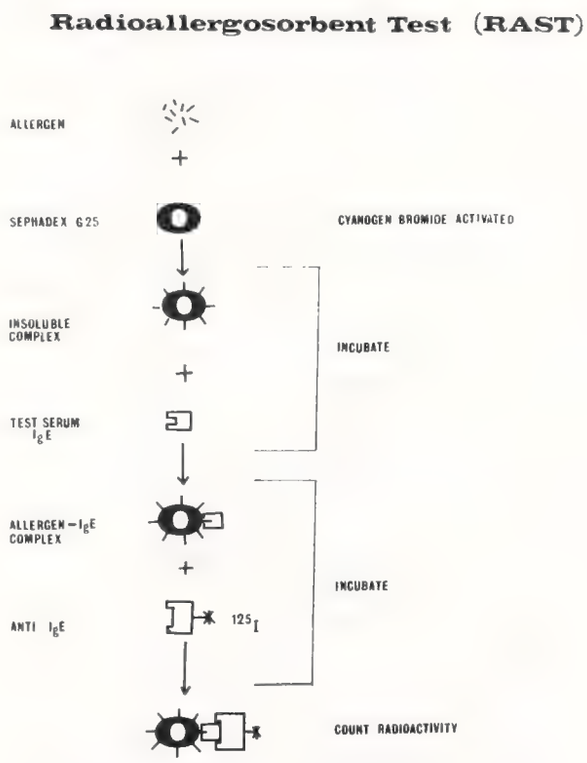
The tests that are available for detecting immediate responses are numerous. Some of these have definite application in the field of allergy and I shall describe only these in detail. Of the tests that are based on the principle of hemagglutination, the only one applicable in allergy would be that in which an allergen could be bound to the erythrocytes to give hemagglutination. A recent addition to the tests based on hemolysis is the antibody plaque forming test. It is a useful research tool.

At the cellular level, definite progress has been made in the techniques of immunofluorescence. Improved sources of illumination have reduced the problem of autofluorescence and unwanted excitation light. These methods are of special interest for studying the antigenic groupings on various cells. They have also been used for determining the immunoglobulins and antigenic sites on lymphocytes. Another test has similar applications, and it depends on enzyme labeled antibodies such as peroxidase. The rosette forming technique is becoming a useful investigative tool.

Tests depending on precipitation have definite application in allergy because of the need for detecting precipitating antibodies against various allergens in addition to reagins. Radial immunodiffusion is widely used for quantitating immunoglobulins such as IgG, IgA, IgM, and IgD. Immunoelectrophoresis, in addition to being a good research tool, is the only reliable method for detecting light chain disease.

The radioimmunoassay has been helpful in measuring various biologically active substances which are found in small quantities. The original test, which was designed for insulin,[11] has been extended to test a large number of hormones, drugs, and other substances.

Quantitation of IgE can be done with this method. The test serum is added to antibody specific for Fc fragment of IgE which is bound to sephadex, along with a known amount of labeled IgE, and incubated. Antigen antibody complexes are removed by centrifugation. The unlabeled antigen present in the test serum competes with the labeled antigen for the antibody. From the amount of bound labeled antigen the quantity of unlabeled IgE present in the serum can be calculated. This is determined by simultaneous controls of known amounts of unlabeled antigen. The only disadvantage of this test, in certain situations, is the fact that the test may measure both active as well as nonactive forms of the biological substance. Therefore, the total amount of substance measured may not correlate with its biological activity. On the other hand, the method has definite advantages: it is extremely sensitive and it can measure the material in the presence of many other substances. This obviates the necessity of initial purification. Recently, further modifications have been reported for the technique involving IgE determination. The antibody has been bound to paper, making it easier to handle. An idea of the sensitivity can be had from the fact that concentrations as low as 2 ng/ml can be measured with this test.[12]



2. Schematic illustration of radioallergosorbent test.

Radioallergosorbent Test

IgE binds with the specific allergens. This fact has been taken advantage of in radioallergosorbent test or RAST.[13] This, in fact, appears to be one of the most encouraging developments in the allergy field since the discovery of IgE. The allergen can be bound to cyanogenbromide-activated sephadex which is insoluble (Fig 2). Once the allergen is bound to sephadex it makes the mechanics of handling easier, since it can be easily

centrifuged and separated from the other medium. In the performance of this test: 50 μl of plasma is added to 0.5 ml of insoluble allergen complex. The mixture is incubated overnight with vertical rotation of the tubes. The IgE, if it is specific against the allergen, binds it. This complex is separated by centrifugation and washed. In the next step, 100 μl of radioactively labeled antiserum, which is specific against the Fc fragment or the heavy chain of IgE, is added and the same incubation and washing procedure is repeated. Finally, the amount of radioactivity bound to the insoluble particles is determined, which in turn depends on the amount of specific IgE present in the serum. The results are expressed against a reference standard of a positive control. The main difficulty at the present appears to be the limited amount of IgE available from the two known myeloma patients. Improved methods of purification of IgE from plasma may offer a solution to this problem.

T Lymphocyte Functions and Tests

Let us review different activities associated with T lymphocytes. The helper function and their cooperation with B lymphocytes has already been discussed. In addition to this, various activities have been associated with these cells. Delayed hypersensitivity can be transferred with transfer factor. Macrophage migration inhibitory factor may be associated with the localization of the macrophages and induction of delayed hypersensitivity reaction. Other factors such as mitogenic factor, chemotectic factor, lymphotoxin, and interferon play a role in the initiation and localization of immune response and destruction of target cells.

Considering the interrelationship of various immune responses, the workup of a patient with hypersensitivity will not be complete unless delayed hypersensitivity is also tested. The simplest method is the skin test. Lymphocyte blastogenesis has been used extensively for studying the function of T lymphocytes. It is based on the simple principle that the sensitized lymphocytes undergo blastic transformation when cultured in the presence of the sensitizing antigen or a mitogen such as phytohemagglutinin. Briefly: the lymphocytes are collected from venous blood and incubated in tissue culture medium along with the antigen for four to five days. Following this, smears can be made and the percentage of the transformed cells can be calculated.

Tritiated thymidine can also be utilized in place of morphologic study of the cells since there is increased DNA synthesis during the blastic transformation. Radioactive thymidine is added to the culture medium after three to five days of culture with the antigen. The thymidine is taken up in the DNA and by calculating the amount of thymidine uptake, one could determine the amount of blastogenesis.

Macrophage migration inhibition test is also important in testing the function of T lymphocytes. Migration inhibitory factor is produced by the T lymphocytes. This factor is synthesized by the cells, actively, rather than stored in a preformed state. The test can be performed in peripheral leukocytes.

The leukocytes are obtained from blood and packed into capillary tubes. The capillary tubes are broken at a point where platelets lie on top of the granulocytes. These capillaries are then placed into the chambers containing culture medium. Ordinarily, the granulocytes would migrate out of the capillaries within 24 hours, forming a circular pattern.

If the test is being utilized for detecting hypersensitivity to a particular substance, the antigenic material is added to the culture medium in the chamber. The lympho-

cytes, in the presence of antigen, secrete migration inhibitory factor which inhibits the migration of granulocytes out of the capillaries.

The lymphocyte, which was once thought to be a small inactive cell, is the seat of major events in immunology. Different classes and types of lymphocytes are being differentiated. This is leading to better understanding of the immune phenomenon. Some of the newer techniques include the use of columns where antibodies directed against different types of lymphocytes are bound to the column material. Lymphocyte mixture is passed through the column. Only the lymphocytes bearing the particular antigens adhere to the column and, therefore, can be fractionated. In this manner, lymphocytes with immunologic differences can be separated. These procedures are bound to enhance our knowledge and information about various lymphocyte activities.

These newer techniques may or may not make the task easier, but they will increase our understanding of the problems.

References

1. Unanue ER, Askonas BA The immune response of mice to antigen in macrophages. Immunol 15:287-296, 1968.

2. Mitchison NA: The immunogenic capacity of antigen taken up by peritoneal exudates. Immunol 16:1-14, 1969.

3. Harris G: Macrophages from tolerant rabbits as mediators of a specific immunological response in vitro. Immunol 12:159-164, 1967.

4. Claman HN, Chaperona EA: Immunologic complementation between thymus and bone marrow cells. A model for the two cell theory of immunecompetence. Transplan Rev 1:92-113, 1969.

5. Mitchell GF, Miller JFAP: Cell to cell interaction in the immune response. J Exp Med 128:821-837, 1968.

6. Taylor RB: Cellular cooperation in the antibody response of mice to two serum albumins: specific function of thymus cells. Transplan Rev 1:114-149, 1969.

7. Rubin B, Wigzell H: Hapten-reactive helper lymphocytes. Nature 242:467-469, 1973.

8. Sinclair NR St. C, Elliott EV: Neonatal thymectomy and the decrease in antigen-sensitivity of the primary response and immunological 'memory' systems. Immunol 15:325-333, 1968.

9. Moller G: Immuno-cyte triggering. Cell Immunol 1:573-582, 1970.

10. Ketman JR, Dutton RW: Radioresistance of the enhancing effect of cells from carrier immunized mice in an in vitro primary immune response. Proc Nat Acad Sci 68:699-703, 1971.

11. Yalow RS, Berson SA: Immunoassay of endogenous plasma insulin in man. J Clin Invest 39:1157-1175, 1960.

12. Harber E, Greenwood FC: Immunologic assay of biologically active material, in: Amos B, Ed: Progress in Immunology. New York, Academic Press, pp 1315-1318 1971.

13. Wide L, Bennich H, Johansson SGO: Diagnosis of allergy by an in-vitro test for allergen antibodies. Lancet II:1105-1110 1967.

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Presented at the annual session of the Texas Medical Association, Section on Allergy, Dallas, May 4, 1973.

Human leptospirosis in Texas
A nine-year overview

Roger M. Barkin, MD, MPH

Fifty-two reported cases of leptospirosis occurred in Texas from 1964 through 1972. Predominantly affected were males who engaged in outdoor activities, and the attack rates increased with age. The 10- to 39-year age group accounted for more than half the cases. The major infecting serogroups were Leptospira Canicola and Pomona, and the most probable animal sources were cattle, swine, and dogs.

Predominant signs and symptoms in the patients were fever, headache, liver abnormalities, myalgia, nausea, and vomiting. Recent evidence indicates that leptospirosis is underdiagnosed, and as physicians' awareness increases, it will play a more important role in the differential diagnosis of acute febrile illnesses.

The first common source outbreak of leptospirosis in Texas occurred in 1971 and sparked renewed interest in the disease among physicians and public health officials. Leptospirosis is an acute, febrile, systemic disease of man and other mammals. The disease is transmitted directly by contact with urine of infected animals and indirectly by contact with streams, ponds, or moist soils contaminated with leptospires.[1,2] While rodents were once considered to be the major host species, recent experience has indicated that dogs, cattle, and swine are also important reservoirs.

For years sporadic cases have been reported in Texas; they resulted primarily from direct contact with an obviously sick animal, fondling an asymptomatic dog, or handling tissues of infected animals in abattoirs. The recent cluster of cases in Baytown, where seven children under the age of 16 had confirmed infection with Leptospira Canicola, was the first reported outbreak in Texas resulting from indirect transmission from contact with a contaminated environment.[3]

Surveillance for leptospirosis in Texas began in 1964, when the Communicable Disease Division of the Texas State Department of Health began compiling case reports. From the beginning of 1964 until the end of 1972, 52 reported cases of leptospirosis occurred. This paper will summarize some of the epidemiologic characteristics of these cases.

Case Finding

Serum samples submitted to the Texas State Department of Health for confirmation of the diagnosis of leptospirosis were

1. Age and sex distribution of 52 cases of human leptospirosis in Texas, 1964-1972.

Age (years)	Patients with Leptospirosis Sex M	F	Total	%
0-9	2	2	4	7.7
10-19	8	3	11	21.2
20-29	6	1	7	13.5
30-39	9		9	17.3
40-49	4		4	7.7
50-59	10		10	19.2
>60	6	1	7	13.4
Total	45	7	52	
%	86.5	13.5		100.0

2. Attack rate by age group of 52 cases of human leptospirosis in Texas, 1964-1972.

Age (years)	Average 1964-1972 Population	Leptospirosis cases	Attack Rate/ 100,000
0-19	4,324,240	15	3.5
20-44	3,540,448	17	4.8
>45	3,008,998	20	6.6
Total	10,873,686	52	4.8

tested with leptospiral antibodies using the microscopic agglutination test, employing a battery of 12 antigens belonging to the following serogroups: Ballum, Canicola, Icterohaemorrhagiae, Bataviae, Grippotyphosa, Pyrogenes, Autumnalis, Pomona, Hebdomadis, Australis, and Tarassovi. When serologic testing indicated a positive titer, epidemiologic investigations were initiated. The diagnosis of leptospirosis was then made retrospectively on the basis of clinical and serologic data. Patients were considered to have had leptospirosis if they had a four-fold change in antibody titer (30 cases), a stable high titer ($\geq$1:400) (5 cases), or a single high titer ($\geq$1:400) (16 cases) with a consistent clinical history. One case was diagnosed by a positive darkfield examination for leptospires. No serologic confirmation was obtained in this case.

Epidemiologic Characteristics

More than half of the 52 patients were in the 10- to 39-year age groups as shown in Fig 1. Eighty-seven percent were male. No cases in children under age 10 occurred before the outbreak in Baytown, where all seven patients were under age 16. The mean age for the 52 patients was 36 years, and the median age was 35 years.

The attack rate increased with age. Fig 2 summarizes these data using estimates of the average population of Texas for that period as the denominator for the calculation of attack rates.

Forty-seven of the patients (90%) were white (including those with Spanish surnames). Twenty-eight (54%) of the cases were in individuals with occupations directly associated with outdoor work such as farming or animal handling (Fig 3).

An average of 5.8 cases per year has been reported since 1964 (Fig 4). There was a slight increase in the number of cases in the second four years of surveillance in contrast to the first four years.

The disease tended to predominate in the late summer and early fall, particularly in August, September, and October (Fig 5). This corresponds with the greater potential exposure to animal contacts, associated with the majority of the involved occupational categories. An unexplained peak occurred in January.

Fig 6 depicts the attack rates by county. No remarkable pattern is apparent, although clustering occurred around population and medical centers. Similarly, there are areas of high attack rates in the southeastern section of Texas along the Gulf of Mexico.

3. Occupational distribution of 52 persons with leptospirosis in Texas, 1964-1972.

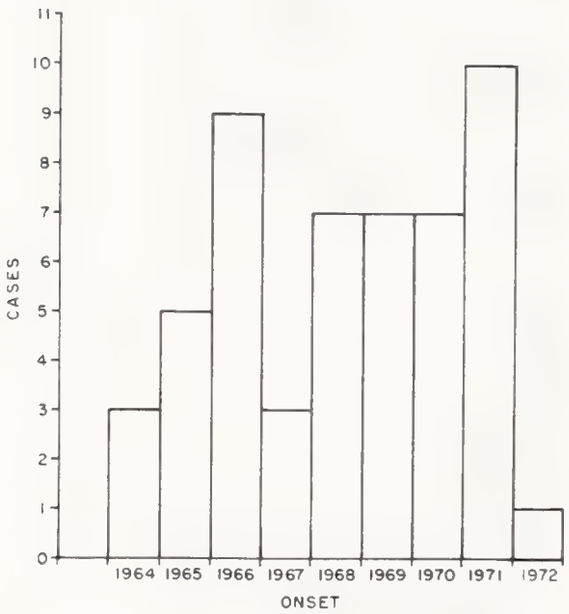
	Occupation					
Serogroup	Laborer	Farmer and/or Rancher	Animal Work (Packing House, Veterinarian)	Child (<18 years)	Other	Total
Icterohaemorrhagiae		1		1	4	6
Canicola	3	1	1	10	2	17
Pomona	1	7	2			10
Hebdomadis	2	3	1		1	7
Grippotyphosa	2	2		1	1	6
Other/Unknown		1	1		4	6
Total	8	15	5	12	12	52
%	15.4	28.8	9.6	23.1	23.1	

Clinical Findings

Clinical features were noted in 49 of the 52 case reports in Texas and were similar to those reviewed by Heath et al in 1965[4] (Fig 7). Predominant features were fever (92%), headache (57%), liver abnormalities ascertained either by physical examination or by laboratory tests (43%), myalgia (39%), and nausea and/or vomiting (39%). No Texas patients died.

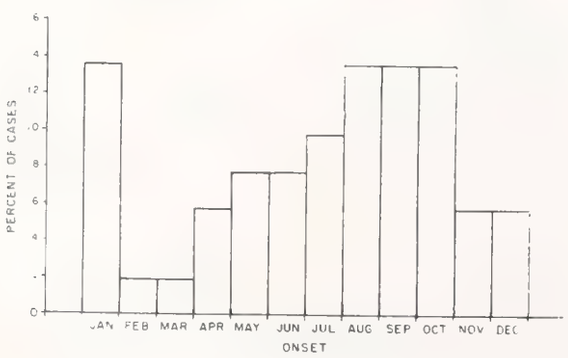
Hepatitis, aseptic meningitis, and influenza were the major clinical illnesses, in addition to leptospirosis, that were considered in the differential diagnosis of the reported cases in Texas.

Thirty-five of the patients (67%) received antibiotic therapy. On the basis of the data collected, no conclusions could be drawn regarding the efficacy of antibiotic therapy in terms of type or duration.



4. Human leptospirosis in Texas, 1964-1972.

5. Human leptospirosis in Texas by month of onset, 1964-1972.



Laboratory Findings and Animal Contacts

Canicola was the predominant serogroup, as documented by the microscopic agglutination test (Fig 8). These infections were primarily due to canine contacts. Pomona infections involving cattle and swine were next, with Hebdomadis, Icterohaemorrhagiae, and Grippotyphosa occurring in decreasing order of frequency. One Ballum case occurred in 1971 from direct contact with infected laboratory mice.

Discussion

Texas has primarily had sporadic cases of leptospirosis in recent years, but the outbreak in Baytown suggests that further clusters of cases may occur. In the past, the mean age has been 36 years, with the highest attack rate for persons over 44. Recent evidence indicates that leptospirosis is increasingly becoming a pediatric problem, and an association has already been demonstrated between the increasing number of children affected and the high percentage of Canicola cases in Florida.[5]

The symptom complex of fever, headache, minor liver involvement, and myalgia emphasizes that Weil's disease is the exception rather than the rule in the clinical presentation of leptospirosis. The mild and self-limiting nature of the illness requires a high index of suspicion on the part of physicians. Diagnosis is based upon clinical impression and serologic confirmation.

No adequate specific therapy has been substantiated for leptospirosis. Supportive

care is, of course, required, but the efficacy of penicillin and other antibiotics has not been established.[6-8]

The tremendous variation in ecological environments within the state makes conclusions regarding regional incidence difficult, especially in view of the small number of cases that have been reported in the past nine years. It is clear, however, that leptospirosis is underdiagnosed, and as physicians' awareness increases, this zoonotic disease may become a more frequently diagnosed disease in Texas as well as in other parts of the United States.

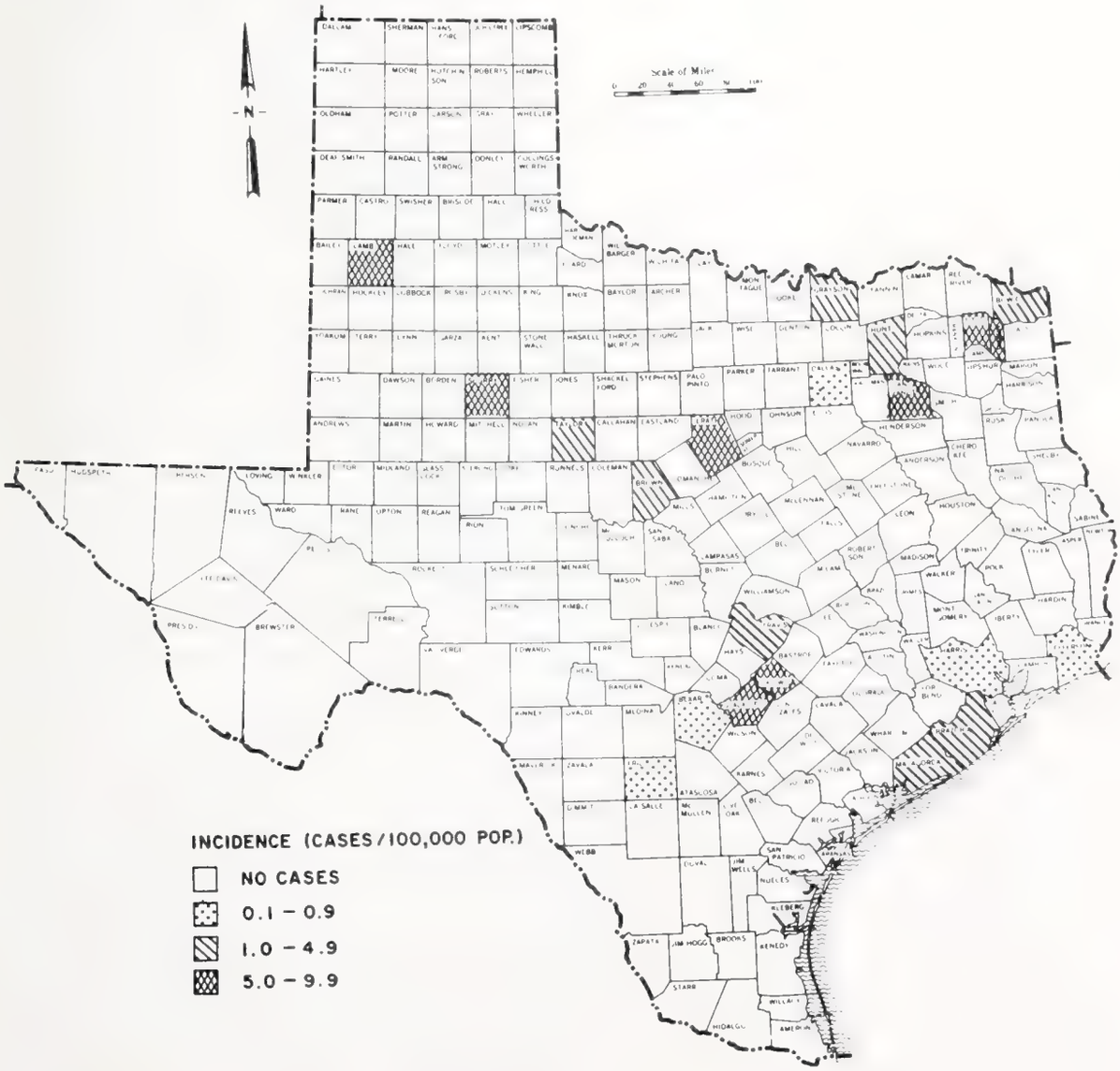
Acknowledgment

The author would like to acknowledge the generous assistance of Dr. M. S. Dickerson, Chief, Communicable Disease Services, Texas State Department of Health, for providing much of the material summarized in this report, and for reviewing the manuscript.

References

1. Turner LH: Leptospirosis I. Trans Roy Soc Trop Med Hyg 61:842-855, 1967.

6. Incidence of human leptospirosis, 1964-1973.



2. United States Department of Health, Education, and Welfare, Public Health Service, Communicable Disease Center: Leptospirosis—epidemiology, clinical manifestations in man and animals and methods in laboratory diagnosois. Washington, DC, US Government Printing Office, PHS Publication No. 951, 1962, p 70.

3. Barkin RM, Glosser JW: Leptospirosis—An epidemic in children. Am J Epidemiol 98:184-191, 1973.

4. Heath CW, Alexander AD, Galton MM: Leptospirosis in the United States—analysis of 483 cases in man, 1949-1961. New Eng J Med 273:857-869, 1965.

5. Bigler JW, Collins TE, Nichols JB, et al: Trends in sporadic leptospirosis in Florida. Public Health Rep 85:225-232, 1970.

6. Kocen RS: Leptospirosis—A comparison of symptomatic and pen therapy. Brit Med J 1:1181, 1962.

7. Doherty RL: A clinical study of leptospirosis in North Queensland. Aust Ann Med 4:53-63, 1955.

8. Hall HE, Hightower JA, Diaz-Rivera R: Evaluation of antibiotic therapy in human leptospirosis. Ann Intern Med 35:981-998, 1951.

Dr. Barkin, Bureau of Epidemiology, Center for Disease Control, Atlanta, Ga. 30333.

Clinical Features	Texas (49 cases)* 1964-1972 No.	%	United States (345 cases)[4] 1949-1961 No.	%
General				
Fever	45	92	345	100
Myalgia	19	39	234	68
Nausea and/or vomiting	19	39	207	60
Headache	28	57	264	77
Central Nervous System	16	33	235	68
Mental and/or neurologic disorder	7	15	73	21
Meningismus	9	18	127	37
Kidney	12	24	175	51
Increased blood urea nitrogen	6	12	91	26
Liver	21	43	167	48
Jaundice	13	27	148	43
Lung	1	2	92	27
Hemoptysis	1	2	11	3
Gastrointestinal	4	8		
Diarrhea	2	4	51	15
Abdominal pain	2	2	104	30
Rash	2	4	31	9
Conjunctivitis	6	12	114	33
Arthritis	3	6	58	17
Mortality	0	0	23	7

*Clinical data available on 49 of the 52 documented cases.

7. Clinical features of 49 cases of human leptospirosis in Texas as compared with a previously reported series of 345 patients.

8. Most probable sources of 52 cases of human leptospirosis, Texas, 1964-1972.

Presumptive Infecting Serogroup	Cattle and/or Swine	Dogs	Rats	Other	Unknown	Total	%
Icterohaemorrhagiae			4		2	6	11.5
Canicola		15			2	17	32.7
Pomona	8				2	10	19.2
Hebdomadis	4				3	7	13.5
Grippotyphosa	3			1*	2	6	11.6
Other				1†	3	4	7.7
Unknown			1		1	2	3.8
Total	15	15	5	2	15	52	
%	28.8	28.8	9.7	3.9	28.8		100.0

*Squirrel involved
†Ballum case involving a mouse

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IMPORTANT INFORMATION: *This is a Schedule V substance by Federal law; diphenoxylate HCl is chemically related to meperidine. In case of overdosage or individual hypersensitivity, reactions similar to those after meperidine or morphine overdosage may occur; treatment is similar to that for meperidine or morphine intoxication (prolonged and careful monitoring). Respiratory depression may recur in spite of an initial response to Nalline® (nalorphine HCl) or may be evidenced as late as 30 hours after ingestion. LOMOTIL IS NOT AN INNOCUOUS DRUG AND DOSAGE RECOMMENDATIONS SHOULD BE STRICTLY ADHERED TO, ESPECIALLY IN CHILDREN. THIS MEDICATION SHOULD BE KEPT OUT OF REACH OF CHILDREN.*

Indications: Lomotil is effective as adjunctive therapy in the management of diarrhea.

Contraindications: In children less than 2 years, due to the decreased safety margin in younger age groups, and in patients who are jaundiced or hypersensitive to diphenoxylate HCl or atropine.

Warnings: Use with caution in young children, because of variable response, and with extreme caution in patients with cirrhosis and other advanced hepatic disease or abnormal liver function tests, because of possible hepatic coma. Diphenoxylate HCl may potentiate the action of barbiturates, tranquilizers and alcohol. In theory, the concurrent use with monoamine oxidase inhibitors could precipitate hypertensive crisis.

Usage in pregnancy: Weigh the potential benefits against possible risks before using during pregnancy, lactation or in women of childbearing age. Diphenoxylate HCl and atropine are secreted in the breast milk of nursing mothers.

Precautions: Addiction (dependency) to diphenoxylate HCl is theoretically possible at high dosage. Do not exceed recommended dosages. Administer with caution to patients receiving addicting drugs or known to be addiction prone or having a history of drug abuse. The subtherapeutic amount of atropine is added to discourage deliberate overdosage; strictly observe contraindications, warnings and precautions for atropine; use with caution in children since signs of atropinism may occur even with the recommended dosage.

Adverse reactions: Atropine effects include dryness of skin and mucous membranes, flushing and urinary retention. Other side effects with Lomotil include nausea, sedation, vomiting, swelling of the gums, abdominal discomfort, respiratory depression, numbness of the extremities, headache, dizziness, depression, malaise, drowsiness, coma, lethargy, anorexia, restlessness, euphoria, pruritus, angioneurotic edema, giant urticaria and paralytic ileus.

Dosage and administration: ***Lomotil is contraindicated in children less than 2 years old.*** Use only Lomotil liquid for children 2 to 12 years old. For ages 2 to 5 years, 4 ml. (2 mg.) t.i.d.; 5 to 8 years, 4 ml. (2 mg.) q.i.d.; 8 to 12 years, 4 ml. (2 mg.) 5 times daily; adults, two tablets (5 mg.) t.i.d. to two tablets (5 mg.) q.i.d. or two regular teaspoonfuls (10 ml., 5 mg.) q.i.d. Maintenance dosage may be as low as one fourth of the initial dosage. Make downward dosage adjustment as soon as initial symptoms are controlled.

Overdosage: Keep the medication out of the reach of children since accidental overdosage may cause severe, even fatal, respiratory depression. Signs of overdosage include flushing, lethargy or coma, hypotonic reflexes, nystagmus, pinpoint pupils, tachycardia and respiratory depression which may occur 12 to 30 hours after overdose. Evacuate stomach by lavage, establish a patent airway and, when necessary, assist respiration mechanically. Use a narcotic antagonist in severe respiratory depression. Observation should extend over at least 48 hours.

Dosage forms: Tablets, 2.5 mg. of diphenoxylate HCl with 0.025 mg. of atropine sulfate. *Liquid,* 2.5 mg. of diphenoxylate HCl and 0.025 mg. of atropine sulfate per 5 ml. A plastic dropper calibrated in increments of ½ ml. (total capacity, 2 ml.) accompanies each 2-oz. bottle of Lomotil liquid.

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Precautions—Toxic amblyopia has been reported with long-term continuous use of ethchlorvynol. Permanent visual defects have been observed, although amblyopia has improved after discontinuation of the drug. Drug dosage should be limited for elderly and debilitated patients to the smallest effective amount. If pain is present, this drug should only be given if insomnia persists after pain is controlled with analgesics. Caution is advised in prescribing the drug for patients who are being treated with either MAO inhibitors or antidepressants. Transient delirium has been reported with the combination of Placidyl and amitryptyline. Drug dosage should be reduced if prescribed for patients receiving MAO inhibitors or antidepressants. Caution should be exercised in patients with impaired hepatic or renal function. Patients who respond unpredictably to barbiturates or alcohol, or who exhibit excitement and release of inhibition in association with such agents, may also react in this way to Placidyl. Rarely, patients may exhibit symptoms suggestive of an unusual susceptibility to the drug; such as prolonged hypnosis, profound muscular weakness, excitement, hysteria, or syncope without marked hypotension. Transient giddiness or ataxia may occur.

Adverse Reactions—Hypotension, nausea or vomiting, gastric upset, aftertaste, blurring of vision, dizziness, facial numbness, and allergic reaction typified by urticaria have been reported following Placidyl administration. Mild "hangover" and symptoms of mild excitation have occurred in some patients. There have been rare reports of cholestatic jaundice occurring in patients taking ethchlorvynol. A few cases of thrombocytopenia have been reported in patients receiving ethchlorvynol. 305432

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Radiographic patterns of congestive heart failure in chronic obstructive pulmonary disease

Robert R. Burns, MD; James N. Camak, MD

The incidence of chronic obstructive pulmonary disease in the general adult male population of America is estimated at 5-20%. It is second only to arteriosclerotic heart disease as the most common diagnosis for work disability allowances under the Social Security Act.[1] Congestive heart failure is one of the most common admitting diagnoses in general hospitals.[2] Therefore, it is not surprising that the incidence of coexistent chronic lung disease and congestive heart failure has increased. Much has been written about the eight radiologically detectable conditions associated with congestive heart failure, namely, dilated upper lobe blood vessels, cardiomegaly, interstitial edema, prominent superior vena cava, and Kerley's septal lines.[3] Not much attention has been directed toward the appearance of these eight conditions in chronic lung disease.

Initially, major attention was directed toward the pulmonary edema of the classical butterfly pattern. Interstitial edema was recognized and studied extensively by Kerley[4] with later work by Fleischner[5] and Grainger.[16] In 1958, Simon[7] described vascular redistribution associated with mitral stenosis and its associated elevated left atrial pressure. Later, it was recognized that the same thing occurred with the increase in left atrial pressure associated with left ventricular decompensation. Until 1969, when comprehensive articles by Hublitz[8] and Milne[9] appeared, there were no specific articles related to the radiographic findings of combined congestive heart failure and chronic lung disease. This article will deal with four diseases: pulmonary emphysema, chronic bronchitis, bronchiectasis, and asthma, which because of a common pathophysiologic abnormality (persistent increase in resistance to bronchial air flow) can be considered together as chronic obstructive pulmonary disease.[10]

Pathophysiologic Considerations

The pulmonary vessels form a vast sponge which soaks up blood as necessary. The ebb and flow of blood is possible because of the extremely low pressure in the pulmonary vessels which favors easy shift in the direction of flow with slight pressure changes. To this facility is added the ease of shunting of blood between the larger vessels because of the potential communications between pulmonary arteries and veins and between the pulmonary circulation and the systemic bronchial circulation.[11] This capillary bed contains only some 70 ml of blood at rest in the upright position, with millions of capillaries in a collapsed resting phase to be used only as needed. A large increase in blood flow can take place without elevation of pulmonary arterial pressure. Only slight regional increases in vascular resistance give blood flow redistribution into an area of lower resistance. This is the basis for vascular redistribution with minor elevations in left atrial pressure.[12]

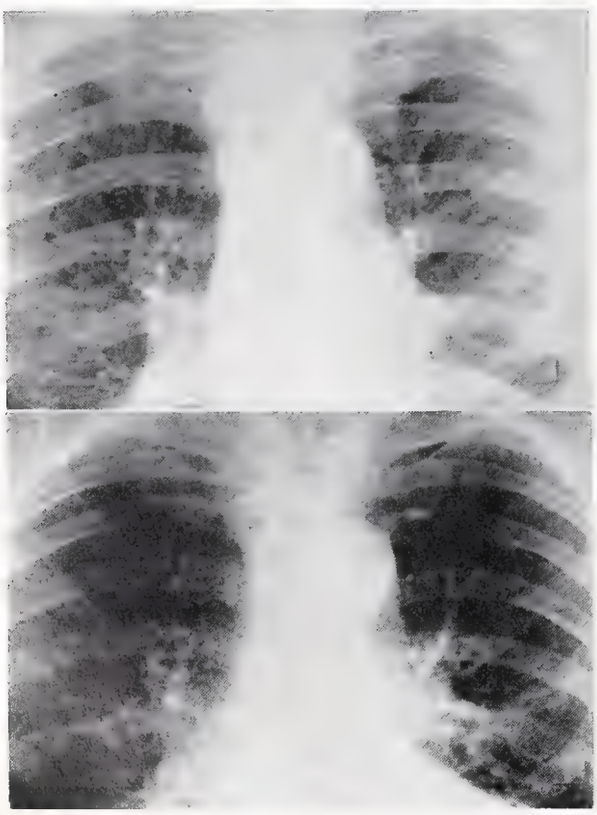
Simon[13] has divided the disturbances of pulmonary circulation into three categories: (1) diseases which cause increased pulmonary flow such as high output states of anemia and fever, exercise, and pregnancy; (2) diseases causing increased resistance to blood flow as in left sided heart failure, mitral stenosis, pulmonary embolism, and the obliteration of pulmonary vascular bed in chronic lung disease; and (3) diseases which cause decrease in blood flow as in cor pulmonale, or obstruction to the blood flow from the right heart. The patient with chronic lung disease represents an extreme alteration of the vascular

dynamics in the pulmonary circuit.

Moderate pulmonary venous hypertension (18-25 mm Hg)[7] will produce interstitial pulmonary edema, while only a minimal increase (10-12 mm Hg) is necessary for vascular redistribution.[14] Rather severe venous hypertension is necessary to produce alveolar edema.

Alveolar edema can only occur in areas having an adequate capillary bed, thus the reduction in the capillary bed is the most important vascular lesion in pulmonary emphysema.[15] In centreacinar emphysema, the capillaries around the respiratory bronchioles are destroyed while capillaries at the periphery of the secondary lobules persist. In panacinar emphysema virtually all of the capillary bed of the involved acinus may be destroyed.[16] In some patients with severe pulmonary emphysema, dilatation of the pulmonary blood flow develops. The mechanism is uncertain but other findings point to acute or chronic left ventricular decompensation, and it is likely that the combination of emphysema and left ventricular failure results in opening of many precapillary shunts.[7] In heart failure, the excess interstitial and alveolar edema reduces the abnormally increased lung volume of chronic obstructive pulmonary disease patients so that along with redistribution of pulmonary blood flow, ventilation-perfusion ratios are altered, and there is actually an increase in diffusing capacity.[9]

1a,b. The patient is an 87-year-old man with extreme obstructive and moderate restrictive ventilatory defects (FVC, 1,785 cc, 50% of predicted; FEV-1, 1,135 cc, 64% of predicted). a. The upper lobe veins are small and normal in appearance. b. With the patient in congestive heart failure, the veins are distended due to vascular redistribution.



Roentgenology

Recognition of congestive heart failure in patients with chronic lung disease is not an "Aunt Minnie" diagnosis. Preconditioning is needed to correlate pulmonary physiologic changes with chest x-ray findings. Hublitz designated the changes of failure in chronic lung disease as (1) regional, (2) interstitial, (3) reticular, and (4) miliary-nodular.[8] Milne's designations for classic radiographic changes of left heart failure are (1) redistribution, (2) basilar edema (vascular blurring and interstitial veiling), and (3) loss of lung volume (diminished compliance)[12] seem more physiologically oriented, an approach which facilitates early diagnosis.

Good quality roentgenograms of the chest, in series, of comparable techniques, are also essential. Unfortunately, portable equipment must be used to examine most patients at this stage of the disease. Further complexities arise in patient positioning, patient incapacity, proper correlation of x-ray exposure and

ventilatory efforts, whether by machine or patient. A good conscientious and experienced technologist is essential.

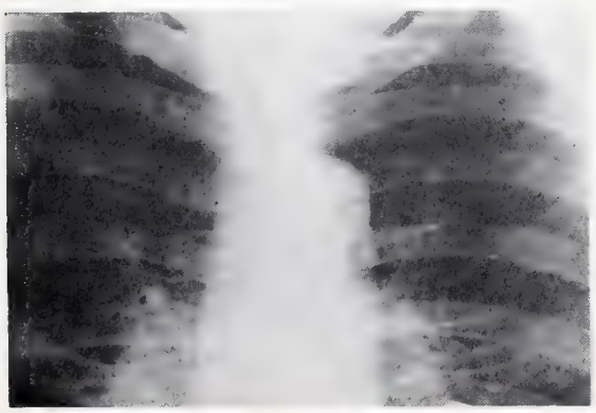
Vascular Redistribution

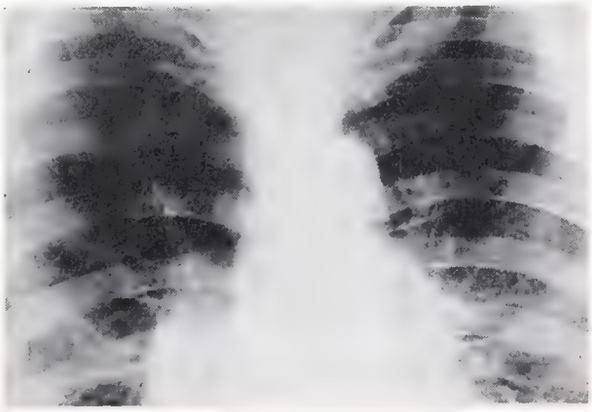
The difference in the radiographic appearances of left heart failure with chronic obstructive pulmonary disease can be explained by, and is proportional to, the morphologic destruction of lung produced by the chronic lung disease process.[1] Redistribution occurs in left heart failure and is one of the earliest detectable radiographic signs of cardiac decompensation antedating auscultatory changes (Fig 1a, b).[12]

Upper lobe blood diversion from a rise in pulmonary venous pressure may not occur if upper lobes are diseased to the extent that they will not accept increased blood flow (Fig 1d, e)[17] Redistribution can occur when the pulmonary venous pressure is normal, as in cases of severe panacinar emphysema in the lung bases (Fig 1c). Similar diversions of blood flow are seen in cases of basilar bronchiectasis, fibrosing alveolitis, chronic bronchitis, and occasionally pulmonary embolism.[17]

1c. A 65-year-old man with extremely severe restrictive and obstructive ventilatory defects (FVC, 1,290 cc, 39% of predicted; FEV-1,310 cc. 25% of predicted). Vascular redistribution has occurred at a time when the patient is not in failure due to severe basilar pulmonary emphysema.

1d,e. The patient is a 68-year-old man with extreme obstructive and moderate restrictive ventilatory defects (FVC, 2,700 cc, 68% of predicted; FEV-1 36% of predicted. There is no change in upper lobe vessels when the patient is in failure (e) because of severe upper lobe pulmonary emphysema.





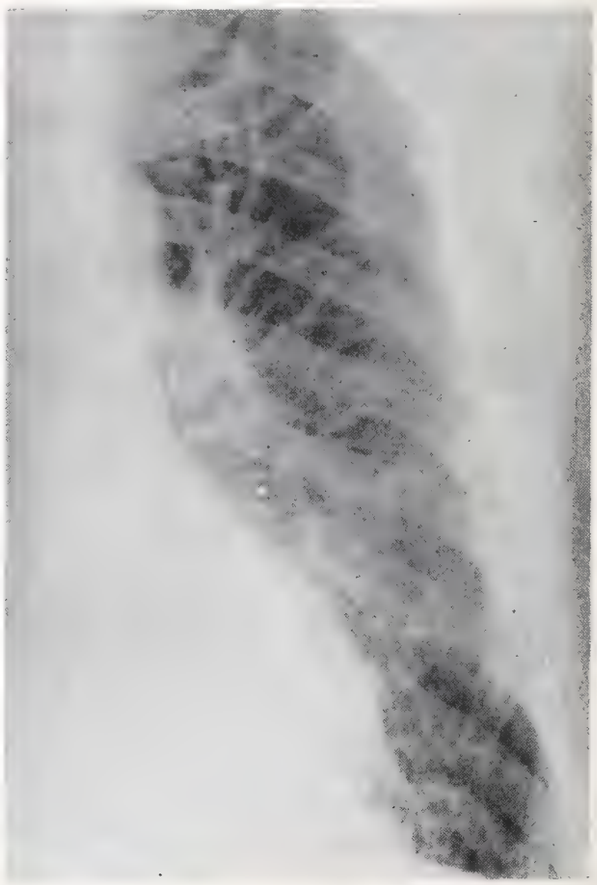
Interstitial

It is known that an increased amount of lymph, up to 25 times the normal amount, flows from the lungs in pulmonary edema and the lymphatic vessels adjust themselves to this increase in flow by angiectasis. Since lymphatic flow is promoted by mechanics of respiration and muscular activity, lung ventilation, and other mechanical forces, it can be seen that the chronic lung patient will have impaired lymphatic flow due to stiff lungs and diminished ventilation.[8]

Kerley A, B, and C lines will appear in those areas in which the vascular and interstitial structures have not been totally destroyed. Kerley A lines are several inches long, somewhat irregular, radiate from the hilum without bifurcation, and they do not follow the normal branching pattern of the bronchi and vessels. The Kerley B lines are the short, very sharp lines seen in the bases laterally. Usually they are about an inch long and run transversely to the pleural surface. These also do not branch. The Kerley C lines are fine, somewhat shorter interlacing lines

2a. The patient is a 58-year-old man with a history of chronic obstructive pulmonary disease who entered the hospital with myocardial ischemia and severe hypoxia. Autopsy-proven pulmonary congestion is predominantly of the interstitial type showing Kerley A, B, and C lines. Upper lobe pulmonary emphysema prevents redistribution.

2b. ET is a 69-year-old man with a history of chronic lung disease, past myocardial infarction, and congestive failure treated with digitalis. He entered the hospital in acute pulmonary edema. The central interstitial edema gives blurred and indistinct appearance to hilar vascular structures.



with a network appearance (Figs 2, 4)[4]

Pulmonary Edema

Localized unilateral pulmonary edema has been reported as a result of gravity, posture and variations in pulmonary venous pressure, disturbances in neurogenic control of capillary size, and permeability. Also, anomalous vascular distribution, localized emphysematous changes, and inflammatory diseases can cause an atypical distribution of pulmonary edema (Figs 2c; 3a and b; 4a). Alveolar edema in the patient with chronic lung disease is not only atypical in location but may be atypical in appearance. Occasionally there is a discrete somewhat nodular pattern resulting from thickened and scarred alveolar walls as well as emphysematous compression preventing lateral drift of the edema fluid through the pores of Kohn (Fig 3a). The altered pattern of lobar pneumonia in chronic lung disease is similar to that which Hublitz had described as atypical pulmonary edema.[19] Difficulty is encountered in those patients with chronic bronchitis and bronchiectasis where the degree of emphysematous change and destruction of lung is not as readily apparent. Fraser and Parè categorize this condition as "increased markings emphysema."[20] In these patients there is only minimal overdistention. Cardiac enlargement is fairly common whereas cardiomegaly is uncommon in panacinar emphysema. Alveolar and interstitial edema in such patients gives a Swiss cheese appearance.[12] Even though cardiac enlargement as commonly evaluated by the cardiothoracic ratio is not present, serial films will show definite changes in cardiac size and contour.

The cases we have used to demonstrate these radiographic findings were selected from approximately 40 patients with confirming clinical evidence of congestive heart failure and severe chronic pulmonary disease. Most of the patients in the series have had abnormal differential circulation times either the day of or within 24-48 hours of the chest film that showed a failure pattern. Only about one third of these patients have had radioisotope lung scan, and thus far the scans have not aided in the earlier diagnosis of failure.

2c. The patient is a 69-year-old retired farmer with extreme restrictive and obstructive ventilatory defect who entered the hospital in acute pulmonary edema. The upper lobe bullous emphysematous areas are free of edema. The different types of interstitial edema are present.

3a. The patient is an 83-year-old man with moderate volume restrictive defect and severe obstructive flow defect (FVC, 2,105 cc, 59% of predicted; FEV-1 1,565 cc, 74% of predicted). There was clinical evidence of failure. Note the localized right upper lobe alveolar edema is of a more nodular and discrete pattern than is usual.

3b. The patient is a 58-year-old man who entered the emergency room with severe shortness of breath, syncope, and pulmonary edema. Note the asymmetrical pattern of pulmonary edema which is predominantly localized to the right lower lobe.

Conclusion

Clinically the diminution of breath sounds, wheezing, scattered rales and rhonchi often fail to alert physicians of heart failure since these physical signs are frequently present in patients with chronic lung disease not in failure.[8] The prognosis in heart failure with chronic obstructive pulmonary disease is notoriously poor. Prompt diagnosis and therapy can improve the prognosis. If not recognized early, these patients experience a downhill spiral produced by increasing hypoxia leading to further hypoxic injury to the myocardium which, in turn, leads to more congestive failure, increased pulmonary edema, and fibrin deposition, which in turn increases the degree of hypoxia. Careful interpretation of chest radiographs in these patients frequently will lead to interruption of the chain by an early diagnosis of left heart failure.

References

1. Heitzman ER, Markarian B, Solomon J: Chronic obstructive pulmonary disease. Radiol Clin N Amer 11:49-75, 1973.

2. Hublitz UF, Shapiro JH: Editorial notes. Ann Intern Med 72:955, 1970.

3. Chait A, Cohen HE, Meltzer LE, et al: The bedside chest radiography in the evaluation of incipient heart failure. Radiology 105:563-566, 1972.

4. Kerley P, in: Shanks SC, Kerley P (eds): A Textbook of X-ray Diagnosis, ed 2. London, HK Lewis, vol 2, pp 98-103, 1951.

5. Fleischner FG: The butterfly pattern of acute pulmonary edema. Amer J Cardiol 20:39-46, 1967.

6. Grainger RG: Interstitial pulmonary edema and its radiological diagnosis: a sign of pulmonary venous and capillary hypertension with special reference to the root shadows and lobular pattern. Brit Heart J 31:201-207, 1958.

7. Simon M: The pulmonary vessels in incipient left ventricular decompensation, radiologic observations. Circulation 24:185-190, 1961.

8. Hublitz UF, Shapiro JH: Atypical pulmonary patterns of congestive failure in chronic lung disease. Radiology 93:995-1006, 1969.

9. Milne ENC, Bass H: Roentgenologic and functional analysis of combined chronic obstructive pulmonary disease and congestive cardiac failure. Invest Radiol 4:129-147, 1969.

10. Thurlbeck WM, Henderson JA, Fraser RG, et al:

Chronic obstructive lung disease. Medicine 49:82-145, 1970.

11. Barden RP: Glimpses through the pulmonary window. Amer J Roentgenol 98:269-278, 1966.

12. Milne ENC: Correlation of physiologic findings with chest roentgenology. Radiol Clin N Amer 11:17-47, 1973.

13. Simon M: Pulmonary vessels: their hemodynamic evaluation using routine radiographs. Radiol Clin N Amer 1:363-376, 1963.

14. Chait A: Interstitial pulmonary edema. Circulation 45:1323, 1972.

15. Jacobsen G, Turner AF, Balchum OJ, et al: Vascular changes in pulmonary emphysema. Amer J Radiol 100:374-396, 1967.

16. Wyatt JP, Fischer WV, Sweet HC: Pathomorphology of emphysema complex, part I. Amer Rev Resp Dis 89:533-560, 1964.

17. Simon G: The plain radiograph in relationship to lung physiology. Radiol Clin N Amer 11:3-16, 1973.

18. Bahl OP, Oliver C, Rockoff SD, et al: Localized unilateral pulmonary edema: an unusual presentation of left heart failure. Chest 60:277-280, 1971.

19. Ziskind MM, George RB, Weill H: Acute localized and diffuse alveolar pneumonias. Sem in Roentgenol 2:49-60, 1967.

20. Fraser RG, Parè JA: Diagnosis of Diseases of the Chest, vol 2. Philadelphia, WB Saunders, 1970, p 1008.

Dr. Burns, PO Box 5997, Dallas, Texas 75222.

4a,b. The patient is the same one seen in Fig 2c. a. Extensive interstitial edema, vascular blurring, atypical alveolar edema, and marked reduction in lung volume are present with the patient in congestive heart failure. b. Six days later, reexamination shows the full extent of the patient's chronic obstructive pulmonary disease after the changes of failure have cleared.

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1. Gertler, M. M., et al.: Geriatrics *25*:134-148 (May) 1970.

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Emphysematous cholecystitis

Johnny Bliznak, MD

Emphysematous cholecystitis, otherwise known as acute gaseous cholecystitis, pneumocholecystitis, pyopneumocholecystitis, gas gangrene of the gallbladder, aerocholecystitis, and gas phlegmon of the gallbladder, is a rare disease which is manifested radiographically as gas within the gallbladder lumen with or without gas in the mural portion of the gallbladder, pericholecystic soft tissue, and biliary ducts. It is a form of acute, usually gangrenous, cholecystitis caused by gas-forming organisms in the gallbladder.

Case Report

A 65-year-old Negro man was admitted to Barnes Hospital Jan 10, 1969, with a history of intermittent right upper quadrant pain for several months. Three days before admission the pain in the right upper quadrant became worse, and nausea and vomiting developed. His past history included a thoracoplasty (right) for tuberculosis in 1920. Physical examination at the time of admission revealed temperature of 37.7 C; pulse rate, 110; and respirations, 24/minute. The patient appeared to be acutely and chronically ill, with abdominal distention, absent bowel sounds, involuntary guarding, and pain to palpation in the right upper quadrant. His white blood cell count was 52,000/cu mm, and hematocrit was 60%. Serum electrolyte values characteristic of a metabolic alkalosis were reported. Subsequent to these studies, electrolyte and fluid replacement was initiated intravenously. Radiographs showed a thoracoplasty (right) and bilateral calcified fibronodular disease of the upper lobes, and an oval shaped, gas-containing gallbladder with gas in the contiguous cystic duct. An upright film showed an undulating air-fluid level, indicating multiple small, nonopaque gallstones. Slightly distended proximal jejunal loops representing a localized adynamic ileus were also seen (Figs 1 and 2). A diagnosis of emphysematous cholecystitis with pericholecystic inflammatory disease was made to explain the gas within the gallbladder and the apparent localized adynamic ileus.

At surgery, a distended, tense, gangrenous gallbladder with spotty areas of necrosis was found. There was an abscess cavity anterior to the head of the pancreas and medial to the second part of the duodenum. The cavity was unroofed and 4 cc of purulent material was recovered. A cholecystectomy was performed, and an unusually large amount of bleeding was encountered secondary to the acute imflammatory disease. The common bile duct was normal, but the cystic duct was dilated to 2 mm in diameter; numerous small stones were seen within the cystic duct and gallbladder. The pathological report stated that the external surface of the gallbladder was coverad with a purulent exudate, and innumerable small pigmented stones ranging in size from 2-5 mm were recovered. Microscopically the inner one-half of the gallbladder was completely necrotic, and in places the necrosis was transmural. In the deep but viable portions of the gallbladder wall, lymphocytes were noted. Acute inflammatory changes were also seen in the attached portions of the liver. Rod-like bacilli were cultured from both the liver and the gallbladder specimens. The culture from this purulent gallbladder material yielded a heavy growth of *Escherichia coli*.

After surgery, the patient required a tracheostomy and was placed on a respirator; antibiotics were started. His course was stormy, and he died 38 days postoperatively of complications of a tracheoesophageal fistula.

Postmortem findings were tracheomalacia, tracheal necrosis at the site of tracheostomy, tracheoesophageal fistula, acute bronchopneumonia, mild pulmonary edema, healed fibrocalcific and cavitary pulmonary tuberculosis, and an organizing thrombus in the left upper lobe of the pulmonary artery.

Discussion

This entity was diagnosed at surgery for the first time by Lobinger[7] in 1908. The first preoperative diagnosis was made by Hegner[6] in 1931, at which time he saw on an abdominal roentgenogram, a pear-shaped radiolucency in the right upper quadrant of a 62-year-old man who had symptoms of acute cholecystitis.

Bacteriology

The organism which is most often cultured is clostridia, but *E coli, Staphylococcus aureus, Streptococcus, Pseudomonas aeruginosa,* and *Klebsiella* also are seen.[8] In 45% of the cases either no culture was obtained or no organisms grew.[13]

Gordon-Taylor and Whitby[4] in 1930 observed nonsporulating *Clostridia welchii* of low virulence in 18% of gallbladders surgically excised for nonemphysematous cholecystitis. Andrews and Henry,[1] in a series of gallbladders removed at surgery, found fewer positive cultures in inflamed than in normal gallbladders; they concluded that

1. Left lateral decubitus film of the abdomen shows air-fluid level in gallbladder and dilated jejunal loops.

the organisms are not primarily, but only secondarily involved in cholecystitis. This concept is accepted as correct now, as the basic etiology of acute cholecystitis is cystic duct obstruction. This also seems to be true of emphysematous cholecystitis.[12] Mason and Hart[9] in 1940 found "Welch-like" bacilli cultured from five human livers. These observations support the concept that certain organisms are commensals within the hepatobiliary system. It has been postulated that these organisms reach the gallbladder via the papilla of Vater as an ascending route of spread from the duodenum,[8] the portal vein,[9] cystic artery,[11] or lymphatics.[5]

Bile is normally bactericidal, but the reduction in bile salts with biliary tract inflammatory disease may lead to bacterial multiplication.[12] Cystic duct obstruction, which is present in 90 to 95% of cases, usually is caused by a small calculus and leads to gallbladder distention which causes compression of the intramural vasculature and ischemia which further increases the likelihood of anaerobic bacterial growth.[10] Under these conditions, emphysematous cholecystitis may develop.

Clinical Data

The symptoms and signs are those of severe acute nonemphysematous cholecystitis. Males are involved in 72% and females in 28% of the cases, whereas with nonemphysematous cholecystitis, the male to female ratio is 18:82.[3]

The age is usually between 50 and 70. Diabetes is seen in 24% of the cases, and calculi are seen in 50%.[13]

Radiographic Findings

No gas may be seen radiographically until 24-48 hours after the onset of the acute attack. The first radiographic finding is typically a large spherical or ovoid gas-filled gallbladder with an air-fluid level. Later one sees lamellar lucent shadows, representing gas in the wall of the gallbladder, which are secondary to separation of the mucosa from the muscularis. Gas in the lumen or wall may be absorbed or persist, and gas then may appear in the form of mottled radiolucencies in the soft tissues around the gallbladder, which is due to escape of gas from the gallbladder wall. This pericholecystic gas may remain even after the patient has clinically recovered from the acute disease.[3] Gas may also be seen in the cystic duct if there is cystic duct obstruction and in other biliary radicals if the cystic duct is patent.[13]

The case presented manifests a radiographic sign never before reported, ie, that of an undulating or corrugated air-fluid level in a gallbladder secondary to the presence of multiple nonopaque stones. The similar radiographic densities of the fluid and the nonopaque stones preclude delineation of stones except at the air-fluid interface. The only other plain film manifestation of nonopaque cholelithiasis is gas-containing gallstones.[14]

The radiographic differential diagnosis of gas in the gallbladder with or without biliary tract gas is: (1) surgically created internal biliary fistula such as a choledochojejunostomy, (2) sphincterotomy, (3) gallstone ileus, (4) cancer or a necrotizing inflammatory process arising within the hepatobiliary system with erosion of the contiguous gastrointestinal tract or vice versa, (5) lipomatosis of the gallbladder, and (6) incompetence of the sphincter of Oddi.

2. Undulating air-fluid level indicates nonopaque stones (left arrow). Cystic duct also can be seen (right arrow).

Treatment

The 11.5% mortality rate is the same for surgical and conservative treatment of this disease.[13] Initial management should consist of hydration and antibiotics. Surgery is limited to cases in which there is failure of response to appropriate antibiotic therapy.[12]

Summary

This entity is acute cholecystitis with superimposed infection by gas-forming organisms, most commonly clostridia. The patient usually presents with symptoms of severe acute nonemphysematous cholecystitis, with or without superimposed diabetes mellitus, and with coexisting cholelithiasis in half of the cases. Radiographically, one may see gas within the lumen or wall of the gallbladder, pericholecystic soft tissues, cystic duct, or other biliary radicals. Pathologic findings are gangrene of the gallbladder, with or without perforation, and pericholecystic abscess. The mortality rate is approximately 11.5% with either conservative or surgical management.

References

1. Andrews E, Henry LD: Bacteriology of normal and diseased gallbladders. Arch Int Med 56:1171-1188, 1935.

2. Boerema WJ, McWilliam RA: Emphysematous cholecystitis: an unusual form of presentation. Aust N Z J Surg 39:258-261, 1970.

3. Edinburgh A, Geffen A: Acute emphysematous cholecystitis. Amer J Surg 15:66-75, 1958.

4. Gordon-Taylor G, Whitby LEH: Bacteriological study of 50 cases of cholecystectomy with special reference to anaerobic infection. Brit J Surg 18:78-83, 1930.

5. Graham EA, Peterman MG: Further observations on the lymphatic origin of cholecystitis, choledochitis and the associated pancreatitis. Arch Surg 4:23-50, 1922.

6. Hegner CF: Gaseous pericholecystitis with cholecystitis and cholelithiasis. Arch Surg 22:993-1000, 1931.

7. Lobinger AS: Gangrene of the gallbladder. Ann Surg 48:72-73, 1908.

8. Marchetto I, Borrelli FJ: Pneumocholecystitis. Amer J Gastroenterol 37:311-314, 1962.

9. Mason EC, Hart MS: The Welch-like bacillus in human liver. J Lab Clin Med 25:835-838, 1940.

10. Morfin E, Ponka JL, Brush BE: Gangrenous cholecystitis. Arch Surg 96:567-573, 1968.

11. Patey DH, Whitby LEH: The paths of gallbladder infection: an experimental study. Brit J Surg 20:580-589, 1933.

12. Rosoff L, Meyers H: Acute emphysematous cholecystitis. Amer J Surg 111:410-423, 1966.

13. Sarmiento RV: Emphysematous cholecystitis. Arch Surg 93:1009-1014, 1966.

14. Stoney RJ, Combs RC, Obata WG: Gas-containing gallstones. Ann Surg 15:212-214, 1962.

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Cholesterol gallstone formation: Recent advances in pathophysiology

Bryan E. Lukie, MD; John M. Dietschy MD

Traditionally, the composition of gallstones has provided the basis for their classification and resulted in the recognition of three main types of stones described by such terms as "pure cholesterol," "mixed," and "pigment." However, recent pathophysiological evidence suggests that this classification should be reduced to only two groups: (1) those containing cholesterol as a major constituent, and (2) those composed predominantly of bilirubin pigment. By far the commonest type encountered in clinical practice is that in which cholesterol accounts for 25 to nearly 100% of the dry weight of the stones. Since cholesterol is essentially insoluble, it has been suggested for many years that cholesterol gallstone formation must, in some manner, result from an alteration in the mechanisms responsible for solubilization of this sterol in bile. Only relatively recently, however, has the application of biophysical theory and techniques led to an elucidation of possible reasons for cholesterol gallstones formation. Some of these recent advances in our understanding of cholesterol gallstone formation are reviewed in this article.

Risk Factors Associated with Gallstone Formation

A number of racial, geographical, and environmental factors are known to affect the incidence of gallstone formation in man. Gallstone formation is more common than apparent clinically, since a significant proportion of those affected do not have clinical symptoms referable to the biliary tree.[1] For example, although the yearly hospitalization rates for gallbladder disease in females and males is 0.36 and 0.14% respectively, in autopsy series gallstones are found in 16.8% of women and 7.8% of males over the age of 20.[2] Thus, studies which include only patients with symptomatic gallstones underestimate the actual incidence by including within the unaffected groups an undetermined number of subjects with clinically silent stones.

The association between age, sex, and gallstones are well recognized. Cholesterol stone formation is rare in children. After puberty, the incidence increases in both sexes but the increase is greater in the female resulting in the well known female-to-male preponderance. After the sixth decade, the incidence in males increases and approaches that of females.[3] Despite the emphasis on the high incidence of gallstones in women during the middle decades, gallstones are still relatively common in men since 7.5% of a large group of normal middle-aged males had gallstones detected during routine health screening which included an oral cholecystogram.[4] This figure corresponds closely to the previously mentioned autopsy rates.

The question of a genetic predisposition to gallstone formation is unclear because of the high frequency of this disease in the population-at-large and the common environment and habits shared by members of a genetically related group. Thus, the occasionally reported high frequency of gallbladder disease in particular families[5] may implicate similar dietary and other habits of siblings or merely represent the chance grouping of individuals affected by a common disease rather than provide support for a genetic etiology. In an attempt to reduce the relative importance of non-genetic factors, the clinical incidence of cholecystitis in the spouses and siblings of patients with gallstones was compared in one study and found to be significantly higher in the siblings.[6] While such findings may support the possibility of genetic factors in the etiology of this disease,

they do not exclude the possible etiological role of common dietary and environmental factors in early life.

There is, however, a well established increase in the incidence of gallstones in several relatively isolated, homogeneous population groups. The Chippewa[7] and Pima[8] Indians clearly form gallstones more frequently than the North American population-at-large. Based on hospital records and cholecystography of a carefully selected sample, the incidence of gallstones in the Pima Indian population approaches 50%. The roles played by heredity, diet, and culture in such groups presents the investigator with as complex a puzzle as does the population of northern India where the clinical incidence of gallstones also is several times higher than in other areas of the country.[9]

Recently, Sturdevant et al reported an increased autopsy incidence of cholelithiasis in men fed a diet high in unsaturated fat and β-sitosterol while low in cholesterol, compared to controls receiving a conventional diet.[10] Unfortunately, the incidence of gallstones in those not coming to autopsy was undetermined. Additional studies, preferably with oral cholecystograms performed at the beginning and end, are required to confirm this interesting and important observation.

In Japan, a fascinating change in composition between gallstones removed in 1927 and 1967-1968 has been correlated with adoption of a Western diet and living habits. The more recently removed stones have shown an increase in the relative proportion of cholesterol and calcium.[11] Thus, gallstones in Japan appear to have changed from a composition similar to that presently found in underdeveloped countries to a composition that now approximates that of North American patients.[12] Whether this change in composition was accompanied by an increase in the absolute incidence of this disorder is presently unknown.

Disease and conditions whose incidence increases with age may spuriously appear to be related to gallstone formation because of their common age dependence. It appears that the relationship between coronary artery disease and gallstones can be adequately explained in this manner.[13] Many of the other postulated associations with gallstone formation may be similarly related.

*1. Some components of bile.**

	Hepatic bile	Gallbladder bile
Specific gravity	1.008 - 1.016	1.008 - 1.059
Bicarbonate	20 - 25 mEq/liter	8 - 12 mEq/liter
Calcium	8 - 11 mg/100 ml	25 - 28 mEq/liter
Chloride	90 - 100 mEq/liter	16 - 19 mEq/liter
Bilirubin	17 - 71 mg/100 ml	50 - 1000 mg/100 ml
Water	97 - 98%	84%
Mucins		1 - 4%
Bile acids	1.24 - 1.72 gm/100 ml	2.3 - 7.7gm/100 ml
Cholesterol	86 - 176 mg/100 ml	100 - 900 mg/100 ml
Fatty acids	101 - 438 mg/100 ml	80 - 1600 mg/100 ml
Lecithins	250 mg/100 ml	350 mg/100 ml

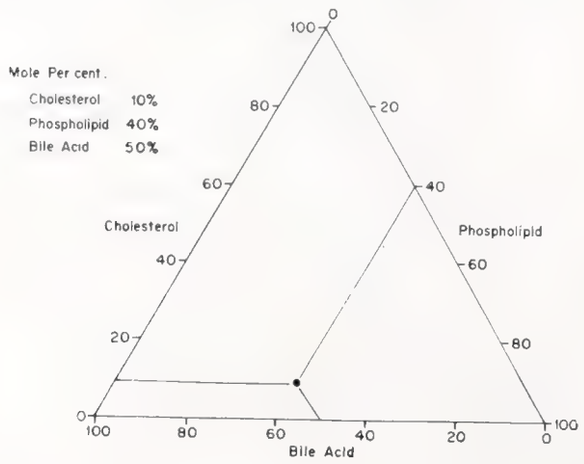
*Modified from Hargreaves[14]

Composition and Function of Bile

Bile is a complex secretion of the hepatocyte whose composition is modified by the absorption of water and electrolytes during its temporary storage in the gallbladder. The major constituents of bile are listed in Fig 1. In addition to electrolytes and water, bile contains a variety of other components,[14] the most abundant of which are bile acids, phospholipids, cholesterol, and bilirubin that together comprise approximately 90% of the dry weight of bile.

Although the liver is regarded as being primarily involved with the synthesis, degradation, and storage of a variety of compounds, it also functions as an excretory organ. A number of compounds with very low aqueous solubilities are maintained in solution in the body by virtue of their ability to combine with a variety of soluble proteins present in serum and intracellular fluid. For example, lipids including cholesterol are maintained in solution in serum by complexing with a group of specialized proteins to form lipoproteins.[15] Another example of such an interaction is bilirubin, which is only sparingly soluble in body fluids but is maintained in solution by its ability to interact with a protein, in this case albumin.[16] Such compounds present a special problem with regard to their excretion. Since they require protein in order to maintain aqueous solubility, they cannot be readily eliminated via the kidneys because this organ does not excrete a significant quantity of their carrier proteins. However, other excretory mechanisms are available in the liver for such sparingly soluble compounds as cholesterol and bilirubin. For example, the latter is conjugated with glucuronic acid, thereby forming a complex which is water-soluble by virtue of its glucuronide component. The complex is then secreted in bile. This route accounts for excretion of most of the 250 to 300 mg of bilirubin produced daily as a result of the continuous degradation of hemoglobin and other heme-containing proteins.[16] Cholesterol, on the other hand, is excreted by hepatic mechanisms different from those involved in handling bilirubin.

2. Triangular coordinates commonly used to illustrate bile solute composition. A sample, indicated below, is represented by the dot within the triangle.



Biliary Solubilization Mechanisms for Cholesterol

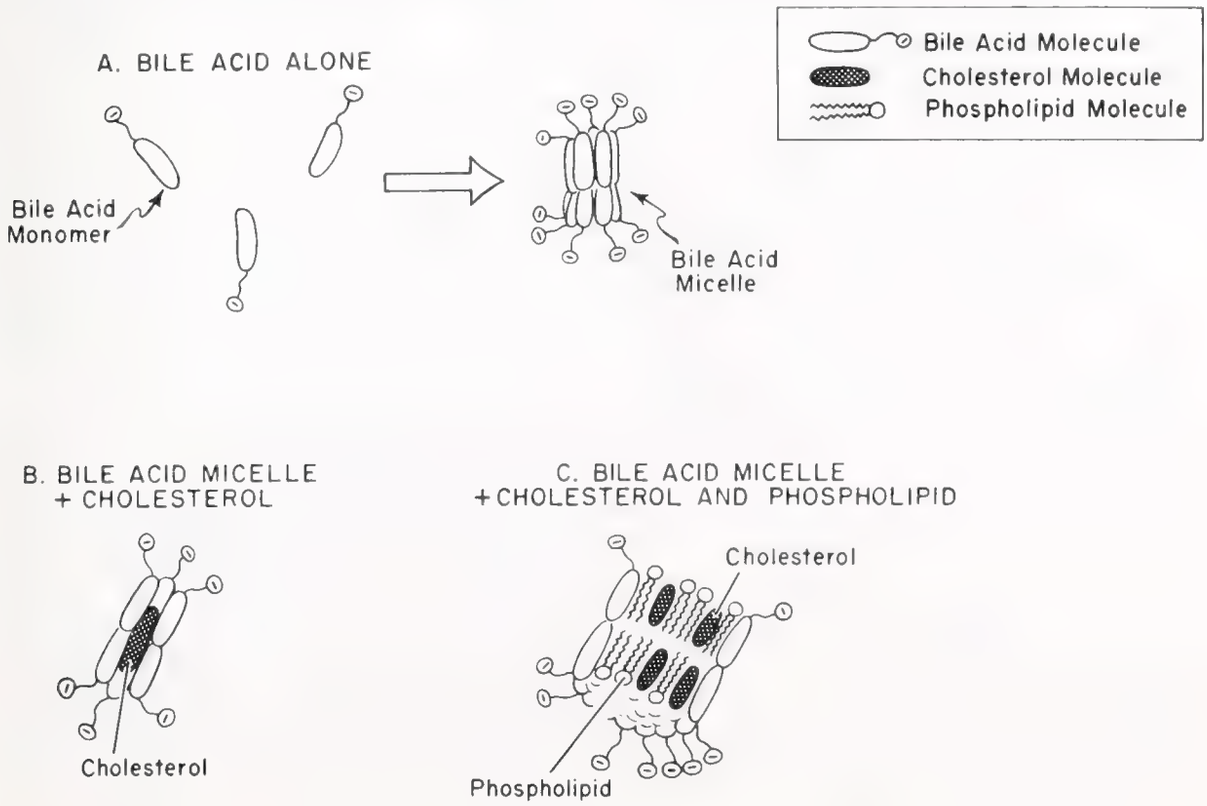
Bile acids and phospholids appear to be largely responsible for the unique cholesterol solubilizing properties of bile. In order to understand how disturbances in the composition of bile may be implicating in the precipitation of cholesterol from bile and the formation of gallstones, we first must review the role of these compounds in maintaining cholesterol in solution. Since plasma lipoproteins do not appear to be secreted in significant amounts in bile, another means of solubilizing cholesterol must be operative. This is accomplished by the biliary secretion of bile

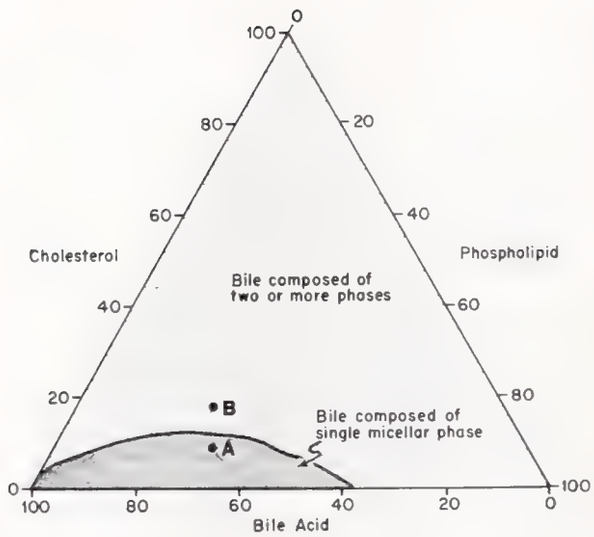
acids. The liver synthesizes these compounds from cholesterol, and eventually they reach the intestinal lumen where they play an important role in fat absorption. They are efficiently reabsorbed by the ileum and resecreted into bile. Because of this efficient enterohepatic circulation, only a small amount of new bile acid is synthesized each day to just balance the amount of bile acid lost in the stool.[17]

Since it will become apparent that the interaction between bile acids, phospholipids and cholesterol is mainly responsible for the solubilization of the latter, the relative concentrations of each of these components in bile is important and is illustrated in Fig 2. In this example, bile with a relative molar concentration of 10% cholesterol, 40% phospholipid, and 50% bile acids is indicated by the position of the dot within the triangle. All possible combinations of these three components are thus representable wthin the area of the triangle.

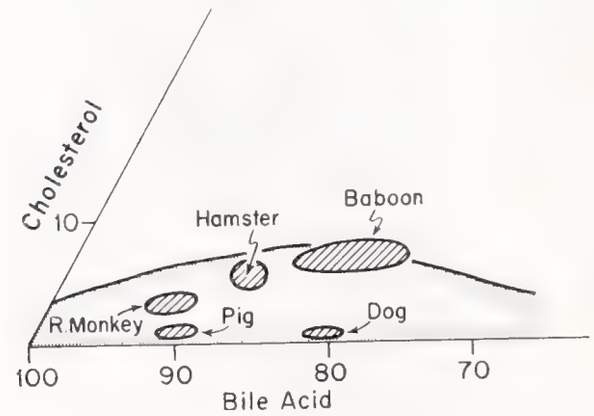
The molecular interactions between these three compounds are illustrated in Fig 3. Bile acid molecules contain both a water soluble (hydrophilic) and a fat soluble (hydrophobic) portion. Such compounds are termed "amphiphilic" meaning "loving both." At an oil-water interface, these molecules arrange themselves so that their hydrophilic groups lie in the water phase while the hydrophobic groups

3. Interactions of bile acid, phospholipid, and cholesterol responsible for cholesterol solubilization. A. Aggregation of bile acid monomers in solution to form a bile acid micelle. B. Solubilization of a cholesterol molecule within a bile acid micelle. C. Expansion of the bile acid micelle by phospholipid allowing greater solubilization of cholesterol within each micelle.





4. Triangular coordinate plot of bile composition with regard to cholesterol solubilizing ability. Point A represents a bile that is capable of maintaining its cholesterol in micellar solution. Point B represents a bile whose cholesterol content exceeds its micellar solubilizing capacity.



5. Relative composition of gallbladder bile from several species. Adapted from Redinger and Small.[12]

lie in the oil. At low concentrations in water, bile acid molecules remain in a free form, referred to as a monomer solution, that have no particular associations.

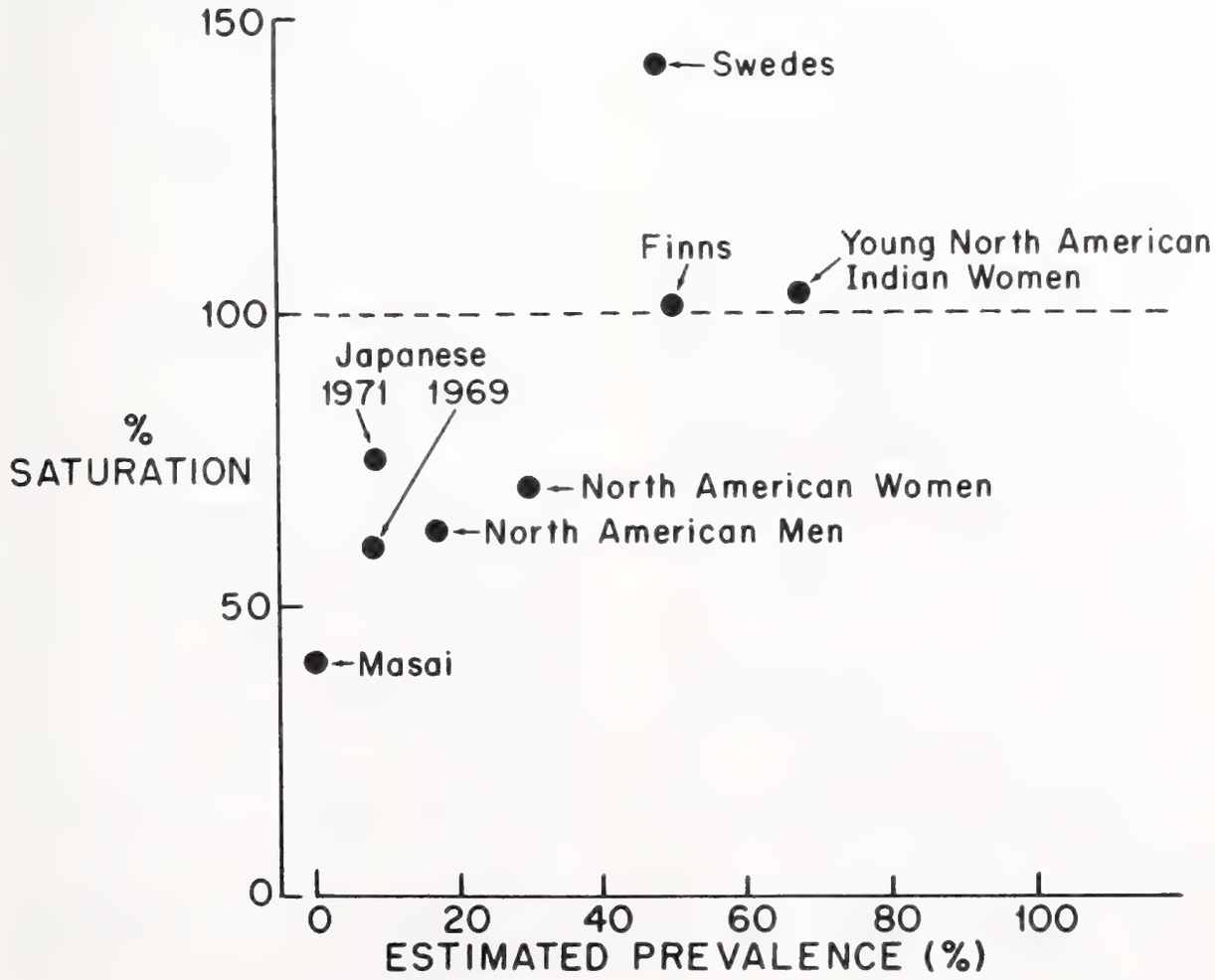
When the concentration of bile acids in solution exceeds a level referred to as the critical micellar concentration, the free monomers aggregate and form a structure called a micelle. This process is illustrated in Fig 3a. Aggregation occurs by association of their hydrophobic portions, leaving the hydrophilic groups on the surface. The micelle thus represents a tiny droplet of lipid maintained in solution as a result of the surface hydrophilic groups which interact with water. The lipid core of the micelle maintains the important property of being able to act as a solvent for other lipids, thus allowing their solubilization in water. For a more comprehensive review of bile acid micelle formation, the reader is referred to Carey and Small.[18]

The ability of a micelle to dissolve other lipids within its core while remaining in aqueous solution is the basic process responsible for the solubilization of cholesterol in bile. When such solubilization occurs, the resulting micelle contains more than one type of lipid and is termed a mixed micelle. Fig 3b shows a mixed micelle composed of bile acid and cholesterol. Although pure bile acids increase the aqueous solubility of cholesterol, they do so rather poorly and do not appear to incorporate one molecule of cholesterol into each micelle.[18] The properties of such solutions are not capable of adequately explaining the solubilization of levels of cholesterol that are normally present in bile; however, the ability of the micelle to solubilize other lipids does. Phospholipids, such as lecithin, are very soluble in bile acid micelles, and up to two molecules per bile acid molecule can be incorporated into

the micelle. This increase in micellar lipid occurs without a loss of aqueous solubility of the micelle, but significantly increases both its molecular weight and size. The expanded micelle is now capable of solubilizing considerably more cholesterol in its lipid core, as illustrated in Fig 3c.

If we now return to the three-component diagram (Fig 2), it is possible experimentally to delineate a zone in relation to the concentrations of cholesterol, bile acid, and phospholipid within which cholesterol will be maintained in a single phase, micellar solution. Such a zone is illustrated by the heavily shaded area of Fig 4. For example, a bile in which cholesterol is maintained in a single phase micellar solution when plotted on these coordinates might be represented by point A of the diagram. In the area outside the micellar zone, cholesterol cannot be maintained in solution (except transiently as an unstable, supersaturated solution) and will precipitate to form a sold crystalline phase in equilibrium with the micellar phase. Point B represents the composition of such a bile. Bile whose composition falls in this area is termed lithogenic and will deposit

6. Percent cholesterol saturation of human gallbladder bile in population groups. Adapted from Redinger and Small.[12]



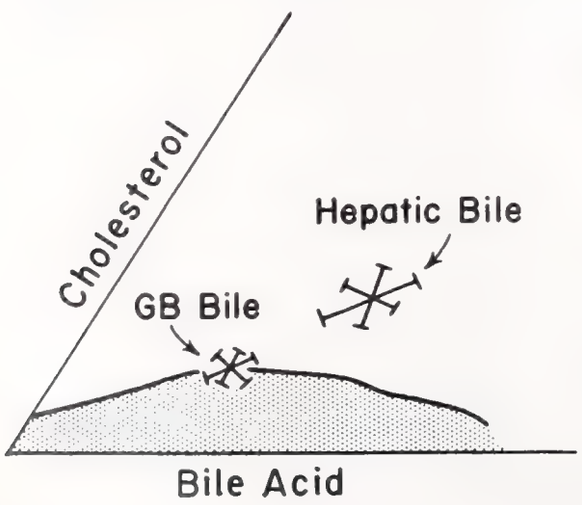
its excess cholesterol in crystals which may then aggregate to form or enlarge existing gallstones.

Gallstone Formation

If these physical and chemical interactions are implicated in the etiology of gallstone formation, some correlation between these parameters and stone formation should be evident. Two types of such correlations exist.

First, the composition of bile from a variety of animal species has been studied and is represented in Fig 5.[12] For simplicity, only the left lower area of the triangular coordinates are represented. It is apparent from this diagram that the monkey, pig, and dog form bile with a low concentration of cholesterol relative to bile acid and phospholipid. Looked at another way, these animals are capable of solubilizing considerable amounts of cholesterol in addition to that normally present in their bile. These species do not spontaneously form cholesterol gallstones and it is difficult to induce stone formation in them by dietary manipulation. However, the golden hamster forms bile with a relatively higher proportion of cholesterol while the mean composition still remains within the zone of micellar solubilization. Although the hamster does not form stones spontaneously, the cholesterol content of bile in this species can be increased by dietary manipulation so that it reaches (saturates) or exceeds (supersaturates) the limits of cholesterol solubility and gallstones form. As also shown in Fig 5, the baboon normally forms bile that approaches and often exceeds the limits of cholesterol solubility. This species is known to form gallstones spontaneously without dietary manipulation.

7. Composition of gallbladder and hepatic bile from patients with cholesterol gallstones. The lines represent two standard errors of the mean for bile acid, cholesterol and phospholipid composition and intersect at their means. The shaded area represents the zone of cholesterol micellar solubilization. Adapted from Small and Rapo.[24]



Second, there is a similar correlation between the degree of saturation of bile with cholesterol and the incidence of cholesterol gallstones in different ethnic groups of man. In Fig 6, the estimated prevalence of gallstones in population groups is compared to the mean degree of saturation of their bile with respect to cholesterol. As is evident, the greater the degree of saturation, the higher the prevalence of gallstones in a given population. Thus, clinical gallbladder disease is unknown in the Masai, an East African nomadic tribe.[19] Based on the study of postmortem bile specimens, members of this tribe appear to secrete a very unsaturated bile with a high ratio of phospholipid and bile acid to cholesterol.[19] Thus, if postmortem specimens reasonably represent the bile composition of this population group, their low incidence of gallstone formation correlates with formation of a relatively unsaturated bile. At the other extreme we find groups having a high

incidence of gallstones who, on the average, form a bile that is supersaturated with cholesterol. After an overnight fast, young Chippewa Indian women without gallstones produce bile that is often supersaturated with cholesterol.[20] This group has a high incidence of gallstone formation (Fig 6).

In the intermediate zone the correlation is less apparent, but may result from methodological variation between studies. For instance, in Japan, the increase in cholesterol saturation in bile between 1969 and 1971 is probably explainable in this manner: In 1971, in Sweden and Japan, a comparison was made of the composition of bile obtained at surgery for diseases other than those involving the biliary tree.[21] Chemical analyses were performed in the same laboratory, and the degree of saturation correlated with the apparent incidence of gallstones in these two countries (Fig 6).

If the formation of an abnormal bile is responsible for gallstone formation, one must question whether the liver or the gallbladder is at fault. In 1965 Burnett was the first to report chemical analysis of gallbladder and hepatic bile obtained during biliary tract surgery.[22] He found hepatic bile to have a reduced content of bile acids in about one-half of patients with gallstones while phospholipid levels were only occasionally lower than normal, and concluded that the liver was responsible for the formation of a potentially lithogenic bile. Subsequently, its actual lithogenicity, based on his calculations, was questioned.[23] In 1970, two groups almost simultaneously published reports confirming that the liver was indeed responsible for the formation of lithogenic bile. In a study of bile composition in a group of predominantly female American Indians undergoing cholecystectomy for gallstones, Small and Rapo found that the hepatic bile was supersaturated while that present in the gallbladder was saturated with respect to cholesterol.[24] These findings are illustrated in Fig 7. At the same time, Vlahcevic et al described a similar abnormality of hepatic bile in a series of men undergoing cholecystectomy for gallstones.[25]

The interpretation of these results was complicated by the unknown effects of fasting, premedication, anesthesia, and surgical stress on bile composition. These studies did, however, include for comparison a small number of patients without gallstones whose hepatic biles were well within the limits of micellar solubilization.[12] Thus, it appears that hepatic bile of patients with cholesterol gallstones has a reduced ability to solubilize cholesterol when compared to bile of patients without gallstones. Also, in the small number of patients operated upon for pigment stones, bile from both the common duct and gallbladder was again well within the limits of cholesterol solubilization.[12] These results indicate that the presence of gallstones per se does not appear to induce production of a lithogenic bile. Furthermore, samples of bile may be obtained without laparotomy by placing a tube in the duodenum and aspirating specimens of bile. Gallbladder bile may be obtained by stimulating gallbladder contraction following intravenous injection of cholecystokinin. Such a technique was used to demonstrate that fasting gallbladder bile of young Chippewa Indian women is more saturated than that of Indian men or Caucasians.[20] These subjects did not have gallstones, and the results therefore indicate that the high-risk Indian females (with respect to gallstone formation)

secrete an abnormal bile before stone formation occurs.

Since production of bile that is either saturated or supersaturated with cholesterol appears to set the stage for cholesterol gallstone formation, can we further delineate the cause or causes responsible for this abnormality? Based upon the three-component system described earlier, an increase in biliary cholesterol, a decrease in phospholipid or bile acid secretion, or some combination of such alterations may be involved. Unfortunately, balance studies in which bile is continuously sampled while the subject maintains a normal or experimentally varied diet and routine for some time are not technically possible at the present time. Thus, conclusions will have to be based on the results of intermittent sampling of bile under certain specified conditions. Such data cannot be generalized beyond the immediate situation under which the bile was obtained, since composition may vary in response to a number of unknown factors that are normally operative. However, based on such studies, several facts have already been recognized.

The total amount of bile acids in the body, referred to as the bile acid pool, appears to be significantly reduced in patients with gallstones. The size of this pool can be measured in man using radiolabeled bile acids. On the basis of such investigations, men with gallstones were found to have a total bile acid pool approximately one-half the size of control patients without gallstones.[26,27] A similar reduction in bile acid pool size in the high-risk Southwest American Indian females with gallstones also was found.[28] A small number of patients in this latter study did not have gallstones but produced lithogenic bile and were found to have a reduced bile acid pool similar to the patients with stones. In another study involving Indian males of the Southwest, a small bile acid pool was found to occur in those patients who secreted a lithogenic bile, whether or not they had demonstrable gallstones.[29] Thus, the presently available data suggest that a reduction in the bile acid pool size precedes cholesterol gallstone formation and may therefore be implicated in the formation of a lithogenic bile.

Currently, the metabolic reasons for the small bile acid pool in these patients are not clear. Normally the liver would "sense" the reduced pool size and increase the synthesis of new bile acids until the pool was returned to normal size. This does not seem to occur in patients with lithogenic bile, and implies that the metabolic defect is in the liver cell.

This reduction in bile acid pool size may be directly responsible for the formation of lithogenic bile or may represent one manifestation of a more basic abnormality responsible for gallstone formation. It does not appear to reflect a special situation limited to the American Indian, since a similar reduction in pool size was also described in Caucasian males with gallstones.[26,27] The hypothesis that a reduction in bile acid pool size is the direct cause of stone formation is, however, appealing since an increased incidence of gallstones also has been reported in patients with inflammatory disease and/or resection of the terminal ileum which is the major site of bile acid reabsorption.[30] Loss of this area of the bowel results in a reduction of pool size because of the considerable loss of bile acids into the stool.

The exact characterization of the pattern of variation in biliary lipid content is currently of considerable concern since it has recently become apparent that secretion of a saturated or supersaturated

bile may be an intermittent phenomenon.[31] Indeed, it has now also been reported that lithogenic bile may occur intermittently even in normal patients.[32] Young asymptomatic Caucasian women, presumably without gallstones, generally will secrete a supersaturated hepatic bile following a 10-12 hour overnight fast.[33] However, although supersaturated with cholesterol, their bile was less so than comparably studied high-risk Southwest American Indian subjects both with and without gallstones.[33]

Do the experimental data provide a better insight into the process of cholesterol gallstone formation? Clearly, knowledge within this area has advanced tremendously in recent years because the "basic" study of the physical and chemical properties of bile provided a firm scientific basis for the subsequent meaningful investigation of clinical material. Although the picture is yet incomplete, a number of valid and useful concepts emerge. The formation of cholesterol gallstones is preceded by hepatic secretion of a bile whose cholesterol content far exceeds the bile salt-phospholipid solubilizing mechanism. Although recently it has been demonstrated that normal subjects secrete a supersaturated bile following an overnight fast, patients with gallstones and members of high-risk gallstone groups secrete a bile that is even more supersaturated. These findings raise several interesting possibilities for future study. Does the intermittent secretion of a supersaturated bile implicate a factor in addition to the bile acid-phospholipid mechanism operative in maintaining cholesterol in biliary solution? If we all secrete a supersaturated bile intermittently, why doesn't everyone have a gallstone? What events are necessary to precipitate cholesterol from a saturated and supersaturated bile? Do we all form mini-stones overnight and then dissolve and/or discharge them into the duodenum? Since stones usually occur in the gallbladder, does this organ increase the lithogenicity of bile during storage or is the common duct less susceptible to stone formation by virtue of its relatively continuous flow of bile? All these questions are of importance, but their answers will have to await further study.

These studies also appear to have laid the foundation for a future therapeutic means of preventing and treating cholesterol gallstones. The apparent inadequacy of biliary solubilization mechanisms and the reduced bile acid pool in patients susceptible to stone formation naturally stimulated investigators to attempt to correct these abnormalities. In a group of American Indian women without gallstones who were secreting a lithogenic bile, the daily oral administration of 0.75 to 1.0 gm of chenodeoxycholic acid resulted in a significant alteration in the composition of their bile. The ratio of bile acids plus phospholipids to cholesterol increased in all subjects so treated,[20] and in three of the four treated patients bile composition shifted into the micellar zone following two months of treatment. Similar results have also been reported in patients with gallstones.[34]

Since the ability of bile to solubilize cholesterol can be increased by administering chenodeoxycholic acid, the composition also can be altered sufficiently to dissolve existing stones. In a recent report, four patients with gallstones were treated with oral chenodeoxycholic acid in doses ranging from 0.75 to 4.5 gm daily.[35] In all four the ratio of bile acid plus phospholipid to cholesterol increased, and in the two in which it was studied, bile acid pool size increased. Over the period of the study, which was up to 22 months, gallstones disappeared in two patients and decreased in size in

two. Additional reports in this area are anticipated shortly. It must be stressed that this means of therapy is presently experimental and not generally available. Although this mode of therapy has not been associated with significant toxicity according to the published studies to date, more work is certainly indicated and anticipated in this important area.

References

1. Ingelfinger FJ: Digestive disease as a national problem. V. Gallstones. Gastroenterology 55:102-104, 1968.

2. Dowdy, GS, Jr: The Biliary Tract. Philadelphia, Lea and Febiger, 1969, p 79.

3. Morrissey K, Eisenmenger W: Medical aspects of diseases of the gallbladder and biliary tree. Amer J Med 51:642-650, 1971.

4. Wilbur RW, Bolt RJ: Incidence of gallbladder disease in "normal" man. Gastroenterology 36:251-255, 1959.

5. Dixon CF, Owen HW: Cholelithiasis: Familial predisposition. Surg Clin N Amer 32:1177-1180, 1952.

6. Van Der Linden W, Lindelof G: The familial occurrence of gallstone disease. Acta Genet (Basel) 15:159-164, 1965.

7. Comess LJ, Bennett PH, Burch TA: Clinical gallbladder disease in Pima Indians: Its high prevalence in contrast to Framingham, Massachussets. New Eng J Med 277:894-898, 1967.

8. Sampliner RE, Bennett PH, Comess LJ, et al: Gallbladder disease in Pima Indians. Demonstration of high prevalence and early onset by cholecystography. New Eng J Med 283: 1358-1364, 1970.

9. Malhotra SL: Epidemiological study of cholelithiasis among railroad workers in India with special reference to causation. Gut 9:290-295, 1968.

10. Sturdevant RAL, Pearce ML, Dayton S: Increased prevalence of cholelithiasis in men ingesting a serum-cholesterol-lowering diet. New Eng J Med 288:24-27, 1973.

11. Nakayama F, Miyake H, Jr: Changing state of gallstone disease in Japan: Composition of the stones and treatment of the condition. Amer J Surg 120:794-799, 1970.

12. Redinger RN, Small DM: Bile composition, bile salt metabolism and gallstones. Arch Intern Med 130: 618-630, 1972.

13. Friedman GD: The relationship between coronary heart disease and gallbladder disease. Ann Intern Med 68:222-235, 1968.

14. Hargreaves T: The Liver and Bile Metabolism. New York, Appleton-Century-Crofts, 1968, pp 42-43.

15. Skipski VP, in: Nelson GJ (ed): Blood Lipids and Lipoproteins: Quantitation, Composition and Metabolism. New York, Wiley-Interscience, 1972, p 471-583.

16. Schmid R: Bilirubin metabolism in man. Bilirubin: chemical properties. New Eng J Med 287:703-709, 1972.

17. Dietschy JM, Wilson JD: Regulation of cholesterol metabolism. New Eng J Med 282:1128-1138, 1179-1183, 1241-1249, 1970.

18. Carey MC, Small DM: Micelle formation by bile salts. Physical-chemical and thermodynamic considerations. Arch Intern Med 130:506-527, 1972.

19. Ho K, Biss K, Mikkelson B, et al: The Masai of East Africa: Some unique biological characteristics. Arch Path 91:387-410, 1971.

20. Thistle JL, Schoenfield LJ: Lithogenic bile among young Indian women. Lithogenic potential decreased with chenodeoxycholic acid. New Eng J Med 284:177-181, 1971.

21. Nakayama F, Van Der Linden W: Bile composition: Sweden versus Japan. Its possible significance in the difference in gallstone incidence. Amer J Surg 122:8-12, 1971.

22. Burnet W, in: Taylor W (ed): NATO Advanced Study Institute, The Biliary System: A Symposium of the Institute, Newcastle-upon-Tyne. Philadelphia, FA Davis, 1965, pp 601-618.

23. Small DM: Gallstones. New Eng J Med 279-588-593, 1968.

24. Small DM, Rapo S Source of abnormal bile in patients with cholesterol gallstones. New Eng J Med 283:53-57, 1970.

25. Vlahcevic ZR, Bell CC, Swell L Significance of the liver in the production of lithogenic bile in men. Gastroenterol 59:62-69, 1970.

26. Vlahcevic ZR, Bell CC, Buhac I, et al Diminished bile acid pool size in patients with gallstones. Gastroenterology 59:165-173, 1970.

27. Swell L, Bell CC, Vlahcevic ZR: Relationship of bile acid pool size to biliary lipid excretion and the formation of lithogenic bile in man. Gastroenterol 61:716-722, 1971.

28. Vlahcevic ZR, Bell CC, Gregory DH, et al: Relationship of bile acid pool size to the formation of lithogenic bile in female Indians of the Southwest. Gastroenterol 62:73-83, 1972.

29. Bell CC, McCormick WC, Gregory DH, et al: Relationship of bile acid pool size to the formation of lithogenous bile in male Indians of the Southwest. Surg Gynec Obstet 134:473-478, 1972.

30. Cohen S, Kaplan M, Gottlieb L, et al: Liver disease and gallstones in regional enteritis. Gastroenterol 60:237-245, 1971.

31. Smallwood RA, Jablonski P, Watts JMcK Intermittent secretion of abnormal bile in patients with cholesterol gallstones. Brit Med J 4:263-266, 1972.

32. Shaffer EA, Braasch JW, Small DM Bile composition at and after surgery in normal persons and patients with gallstones. New Eng J Med 287:1317-1322, 1972.

33. Metzger AL, Adler R, Heymsfield S, et al: Diurnal variation in biliary lipid composition. Possible role in cholesterol gallstone formation. New Eng J Med 288:333-336, 1973.

34. Thistle JL, Schoenfield LJ: Induced alterations in composition of bile of persons having cholelithiasis. Gastroenterology 61:488-496, 1971.

35. Danziger RG, Hofmann AF, Schoenfield JL, et al: Dissolution of cholesterol gallstones by chenodeoxycholic acid. New Eng J Med 286:1-8, 1972.

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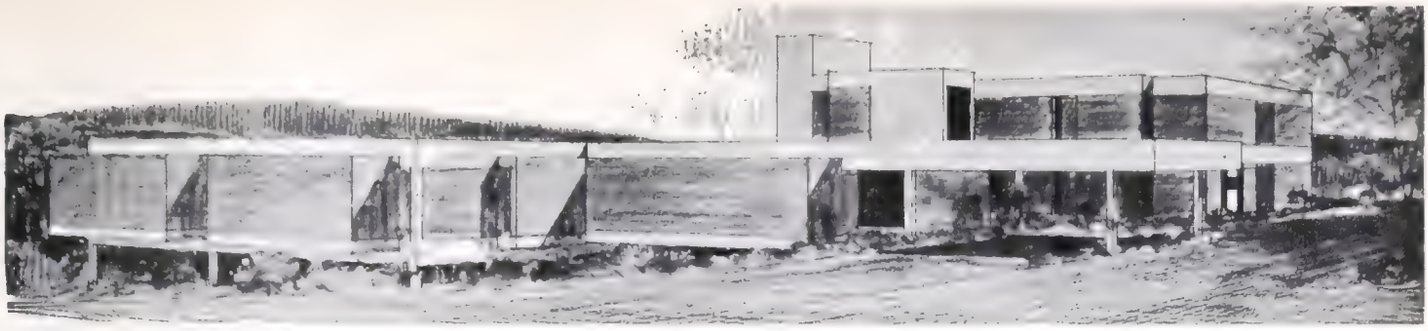

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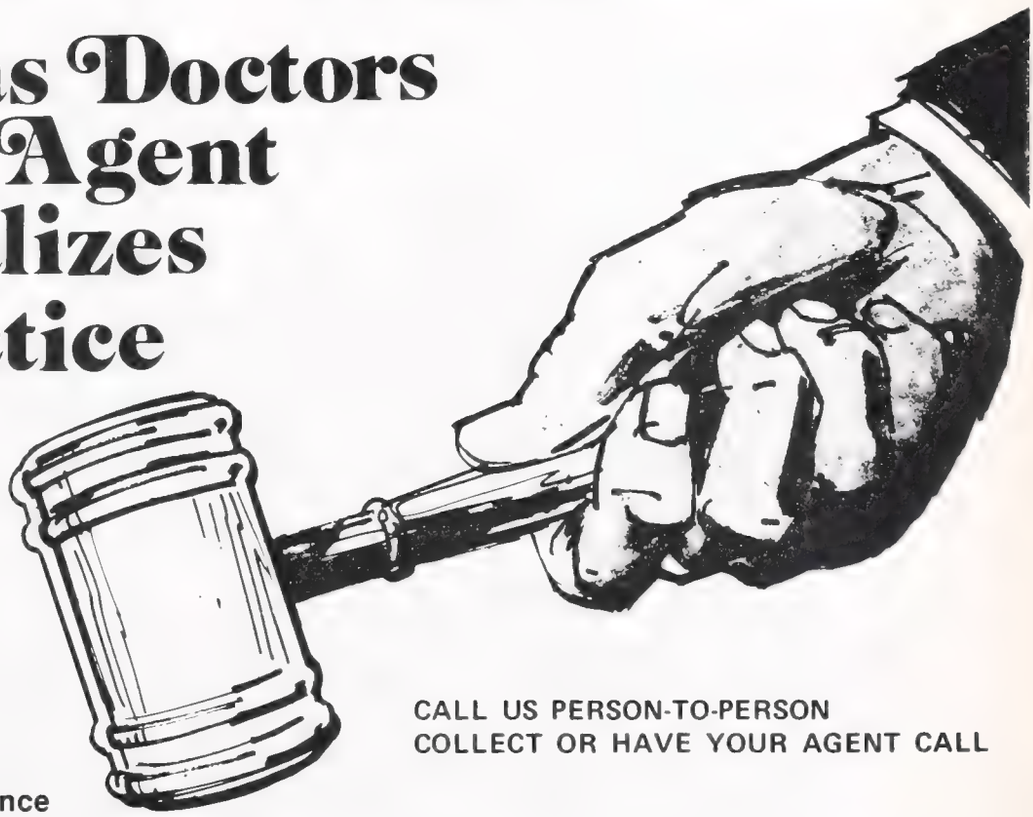

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Medical care to health care: Basic theoretical questions still frustrate planning

Dennis Kilper

A facilities planning team in Houston identifies three key needs for planning of systems for community health services: (1) the need for a functional definition for health, (2) the need for a reasonably substantive theory for health education, and (3) procedures for integrating care of the environment with care of the person, and presents potential means for dealing with the issues they represent.

A project to develop concepts for facilities appropriate to support new systems of community-based ambulatory health care services has been initiated in the School of Architecture at Rice University. A faculty and student research team was set up for that purpose without grant support, but with the technical back-up of a voluntary advisory group of interested physicians, administrators, planners, and others representing the health professions. This article is a progress report on their work during the academic year 1972-1973.

The project was undertaken in response to the perceived need for efficient prototypes for facilities that locate comprehensive health care services outside the hospital, and in direct proximity to the population at risk. Prototypes for such facilities do not exist largely because: (1) the concept of comprehensive care which involves the integration of several specialties and a variety of support services is relatively new, and there has not been time to implement appropriate facilities outside the nation's medical centers, or major hospitals;[5] (2) proposals for anticipated federal intervention into the nature of payment for health care services stresses outpatient programs that relate to specific neighborhoods;[4] and (3) there is new interest among health professionals and laymen in programs intended more to keep people well when they are well, rather than only to provide reparatory episodic care when they are ill.[2]

Early in the work it became clear that formulation of new prototype facilities without effective techniques for planning and implementation by communities would not be enough. The project was therefore reoriented toward developing a set of guidelines for planning and effectuation, which would include a catalog of alternative prototypes. This allowed freedom from the need to lock in the research to definition of a specific concept that might not respond to local conditions. Communities seeking to develop systems to meet their specific health care needs could be given a useful planning tool to help them identify problems and strategies for solution that correctly fit local contexts.

A study was then made of the planning and design process for the purpose of clarification, and for application to the stated problem. A check list was made of indicant factors relating to each decision in the process. Further study to provide theoretical and technical backup on the usefulness of the information, as well as appropriate indicators for each variable, and to begin identification of alternative service concepts, was also undertaken. This work has not yet been concluded and constitutes a major area of inquiry for subsequent research under the academic umbrella of the new Health Facilities Design Program at Rice.

In this early attempt, the study team found itself cast more as health service planners than as architects. Several technical questions critical to the design of new programs frustrated effort to concentrate on facilities. Constituent buildings or equipment became secondary to resolution of these. However, the team continued research into the programming of support

1. Health related factors.

Disorder Elements						
No clear line can be drawn between psychological and physiological elements because they are so totally interrelated within man.						
Preventive	Contributory	Aggravative	Supportive	Vectors	Treatment to Organism	Treatment to Environment
Physiological						
Immunity	Genetic defects	Climatological factors	Genetic strength	Air	Radiation therapy	Air quality
Isolation	Birth defects	Genetic defects	Good nutrition	Insect	Physical therapy	Water quality
Strength	Virus or bacteria	Environmental stress	Supportive habits	Animal	Surgery	Vector control
Heredity	Lack of immunity	Poor nutrition	Supportive environment	Water	Rest	Sanitation
Supportive environment	Poor nutrition	Weakness	Pure water	Food	Drug and antibiotic therapy	Social restructuring
Psychological strength	Environmental stress	Other physiological disorders	Strength	Objects	Psychological therapy	Environment restructuring
	Poison	Physical activities	Exercise	People	Maintenance	Food quality control
	Injury	Psychological disorder	Economic viability		Cleanliness	Education
	Climatological stress				Tranquilizers	Counseling
	Other physiological disorders				Nutritional therapy	
	Psychological disorders				Counseling	
Psychological						
Physiological strength	Physiological disorder	Physiological disorder	Genetic strength	People	Physiological ordering	Treatment of physical diseases
Self esteem	Choices	Choices	Good nutrition	Events	Psychotherapy	Nutritional therapy
Social interest	Trauma	Trauma	Supportive habits	Senses	Tranquilizers	Psychotherapy
Love	Perception	Perception	Supportive environment	Environment	Shock therapy	Environmental restructuring
Friendship	Interaction	Interaction	Strength			Social change
Rationality	Genetic defect	Genetic defect	Love			Education
		Anxiety	Friendship			
			Cultural education			
			Institutional education			

facilities. But, what those facilities were to support was not clear in the minds of the architects or the health professionals.

Several questions came up that seemed, particularly, to challenge the health professions and the planners.

First, there is need for generally accepted criteria for identification of what a population might, or ought, be expected to seek in the way of care. Without such criteria any kind of planning is impossible. There is simply no way to predict demand levels for certain types of services.

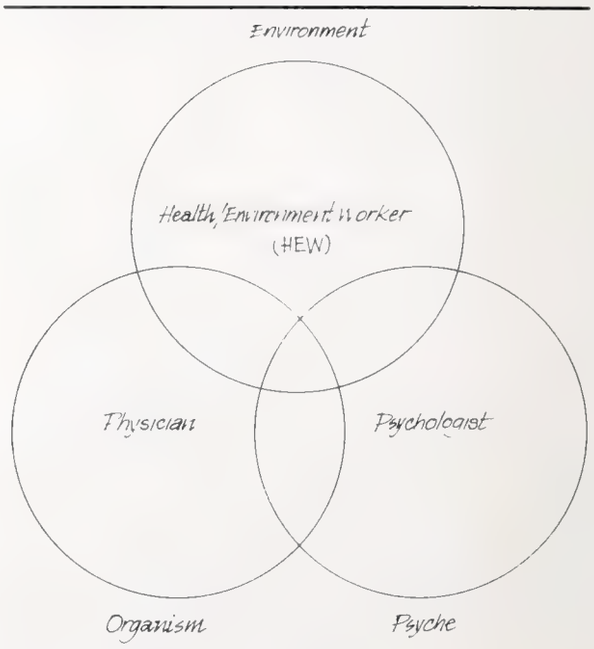
Key to resolving this issue is adoption of a functional definition for health, ie, one that takes into account what people do, the way they live, their physical and social needs in varying conditions, and one that can be easily understood by the layman as well as the professional. The technical definition for health obtained from most dictionaries and medical texts—though recently made comprehensive enough—is too mechanical to be of use to the nonprofessional. The current World Health Organization definition is, on the other hand, so general and vague as to be totally inadequate for planning.[3]

People do what they want to do, and what they perceive society expects of them. What they want to do, and what they think is expected of them, ie, what will afford them the most benefit toward their personal goals, are generally coincidental. Today these include, in simplified terms, work, love, and friendship.[1] *Work* is to be a productive, contributing member of society, not an unnecessary drain upon its resource. *Love* is the task of providing and accepting the most intimate forms of human relationships that help to insure continuation of the species. *Friendship* is the ability to be a social being and is related to the primitive instict for security. If, indeed, these are the basic labors of man, a possible definition for health may be simply this: That so long as a man can perform these three tasks according to his and so-

2. Effectuation levels for US communities.

Level	Treatment of Organism	Treatment of Environment
National	Coordination & support planning	Coordination & support planning
Regional	Inpatient & specialty planning	Environmental management planning
City/County	Inpatient & specialty care planning	Environmental management planning
Neighborhood	Primary care	Screening
Family or group	Home or group care	Home care
Individual	Self care	Evaluation

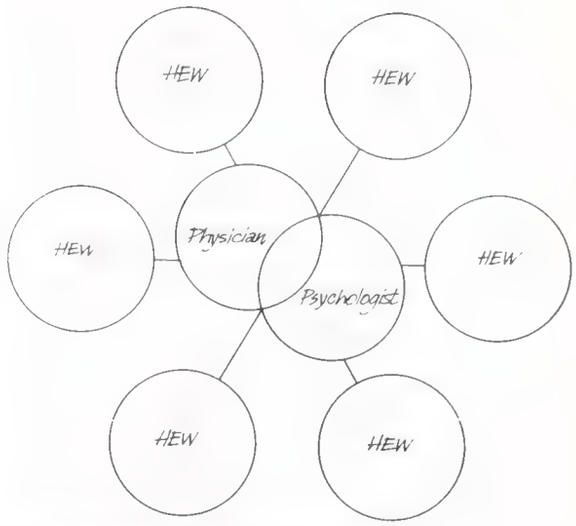
3. Research revised primary care module.



ciety's expectations, he is well. Real or supposed inadequacy in any of these tasks becomes reason to seek care. Actual reasons may be physiological, social, environmental, or psychological, but these are all the province of today's health system if it intends to try to keep people well.

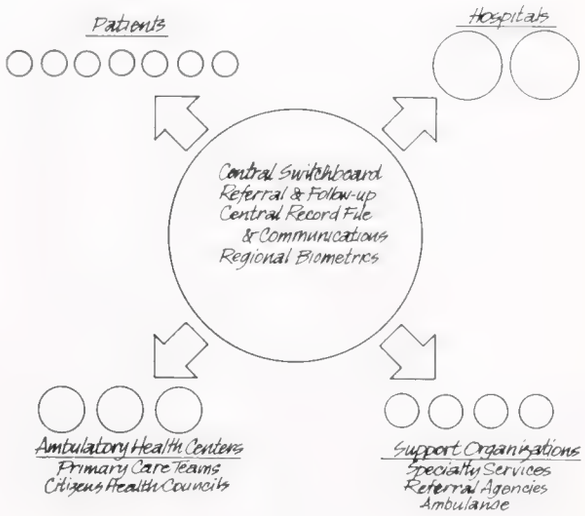
Hand in hand with the need for a functional definition for health is the need for a logical theory for health education. What is currently considered material for popular health education lacks the comprehensive nature of today's science and is so shallow as to often insult people's intelligence. Self care, or family care, constitutes the majority of health care in this or any other country. It must be made an effective part of the health care system. Health education is an obvious step in that direction, but a great deal of research into what is to be popularly taught, and how it is to be presented, must yet be done. It is particularly important that what is taught be logical, comprehensive, and of sufficient depth that the brightest amongst us need not continually be frustrated by conceptual dead ends in his search to understand the dynamics of his own life.

A second basic issue lies in the fact that environmental management is not yet a part of the health care system. Fig 1 illustrates the overlap, through physiological and psychological variables, of factors producing either positive or negative consequences upon human health. Note that the last two columns at the right catalog various treatment modes. The first column of the two deals with treatment of the organism, the second, with treatment of the environment. Although virtually all human disorders have inherent environmental genesis, few significant links presently exist between systems for care of the organism and those concerned with management



4. Coordinated primary care module.

5. City/County coordinating system.



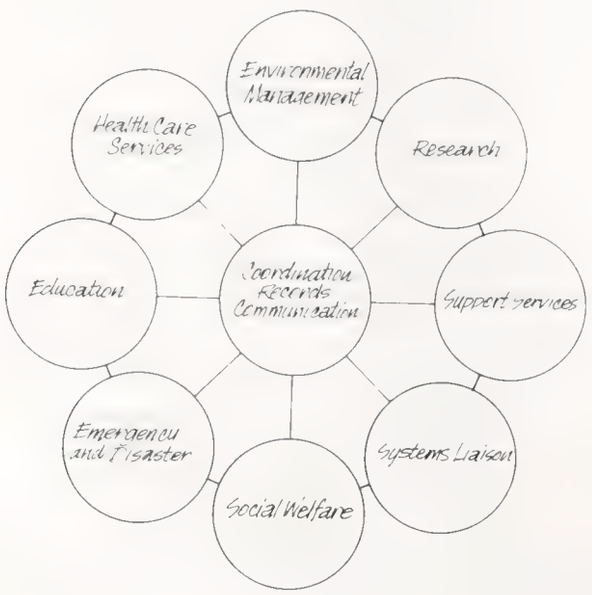
of health promoting characteristics of environment. Without stronger programs coordinating these two concerns, no "health care system" that honestly affords people continuing life or health support is possible.

Since the quality of one's own back yard depends as much on how his neighbors keep their yards as upon what he does with his, systems that attempt to deal with the environment for practical health benefit must be nearly global in nature. Fig 2 shows the hierarchy of effectuation responsibilities for US communities. Decisions at all levels of management hierarchies from dwelling unit through city, county, state, nation, and even continent, affect the health supportive nature of each back yard. Hence, the "health care system" should operate at all levels. Even the present system does, however, but not very effectively. In Houston, for instance—our laboratory community—numerous agencies or facilities other than doctors and hospitals provide health supportive services such as counseling, emergency aid, social and economic services, sanitation, occupational health, etc. But few are generally known to the population or to one another. They do not, therefore, adequately serve the community. The city has an environmental health program; so does the county; so does the Houston-Galveston Area Council, the regional authority; so does the state and the nation. Beyond these are agencies such as the Pan American Health Organization and the World Health Organization. So the pieces are there, they only need coordination and the means to link local programs to the national or global ones.

Starting at the local level, there is need to provide an environmental component to the primary care team. One concept with which we are working centers around a tripartite team (Fig 3) composed of a family physician, a psychologist, and a third person we call Hew for Health/Environment Worker (the pun with the Department of Health, Education and Welfare is intended).

The combination of physician and psychologist is easy enough to accept, like the bringing together of mind and body. Hew is the new man. But he is really not so new. Most proposed ambulatory care programs include an individual commonly called a patient advocate, or family health advisor.[6] (Hew's function is similar to this role.) However, in our thinking he becomes the critical link between care of the organism and care of the environment. By training, he would be a paramedic capable of providing family and individual counseling on a variety of health and health related issues, including nutrition, health education, family problems, social problems, etc. He would also serve as a diagnosis and treatment aide to both the physician and the psychologist and would maintain closer relationships with the patients, helping to

6. *Health, Education, and Welfare.*



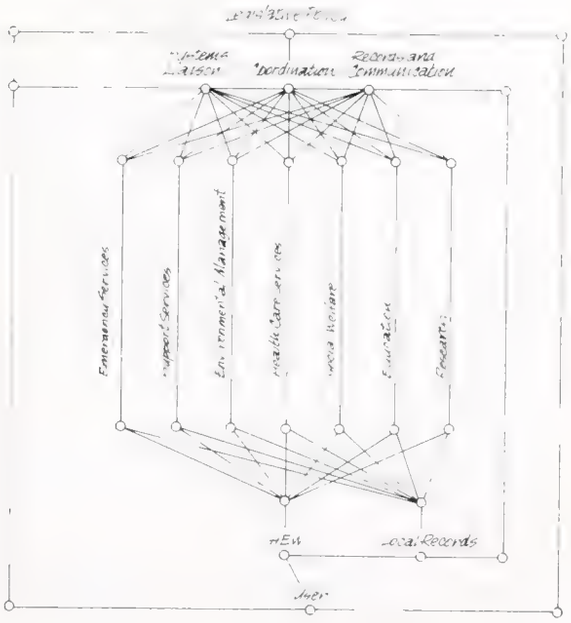
interpret treatment regimens and so forth. He would be knowledgeable in problems and processes of environmental health, acting as a monitor of local conditions, and the principal medium for initiating corrective environmental programs at that level. He would, for instance, help a family in determining what changes to their dwelling environment might facilitate safe and purposeful development for an invalid child, or he might help a family living in the fallout of a manufacturing plant to obtain corrective action from responsible authorities. In addition, Hew's knowledge of nutrition, environmental health, and his liaison with the public health disciplines would free the physician from extensive training in these areas.

Ideally there should be one physician working with one psychologist, and one Hew for each patient visit. Each member of the team then, in time, could learn from the others, thus improving their combined effectiveness. It is doubtful that this could be achieved economically. Therefore, schedules for the three roles must be coordinated to allow each to handle certain patient visits individually. Critical or complex episodes, initial visits, and at least one visit per patient (or family) per year would include all three members of the team together. One physician and one psychologist could form a working nucleus for as many as six Hews (Fig 4) to service 400 to 600 families.

This interdisciplinary team could function as the local level of a coordinated system of information and support services including inpatient care facilities, education, records and information handling, technical support, research, emergency services and transportation, environmental management, etc. (Fig 5 illustrates a local coordinating system for support of such teams as well as other applicable services.) At the national level, the Department of Health Education and Welfare would of necessity have a heavy role in such processes. HEW is even now the macro scale Health/Environment Worker. It is not, however, a coordinated and effective working system. Although it is as fragmented as the local service systems mentioned earlier, it is also the one federal agency with broad enough responsibilities to deal with the vast array of interdependent variables affecting human health and welfare.

Figs 6 and 7 illustrate a possible concept for reorganizing the purposes and structure of the HEW. Fig 6 indicates a basic set of interdependent responsibilities that might be coordinated under the department. It is not possible to explain in detail the concepts these two diagrams represent. Suffice to say that all the functions and responsibilities they indicate already exist in national government as components of HEW or other departments or agencies. But, largely because they are not

7. Health, Education, and Welfare—Organization.



coordinated one to another, they are ineffectual and often in direct conflict. As a result, some form of restructuring for HEW eventually would have to accompany the implementation of new health and environmental programs.

These are questions, presently unanswered, critical to the planning of new service systems. They call for difficult choices precedent to any consideration of facilities. The real issue is delivery of health care services, however, not delivery of clinics or hospitals. The buildings generated for support of those services, at least in our minds, will of need be conceived totally for that purpose—to support the delivery of health care services. But the delivery concepts are not yet working or worked out.

The ideas presented here are only alternatives. They will be discarded or developed further, and tested against the constraints of current management techniques and implementation and maintenance economics. Nevertheless, the principal evaluative criterion will be their overall usefulness to the purpose of effective health care delivery.

References

1. Adler A, in: Ansbacher H, ed: The Science of Living. New York, Doubleday, 1969.

2. Brown RE: New pressures will be social, not technical. Modern Hosp 1971.

3. Constitution of the World Health Organization, p 3, from: Chronicle of the World Health Organization, 1:29-43, 1947.

4. Douglass RH: Health care: the fastest growing industry. Progressive Architecture 1972.

5. Garfield SR: The delivery of medical care. Scientific American 1970.

6. Health care: the government's role (Editors) Progressive Architecture 1969.

Mr. Kilper, assistant professor, Rice University School of Architecture, Houston, Texas 77001.

The patient, the account, and the $s

William J. Strickler

For 25 years I have looked for a simple and effective way to collect slow and past-due medical accounts. I have not found one, but I have learned that there are methods that do a good job for the doctor if they are used. Not all patients who pay promptly are happy with all the things connected with their medical treatment, and not all slow or nonpaying patients are without funds to pay. What the physician and his staff need to learn from each patient is his attitude toward the treatment, the doctor, the staff, and health practice in general. This can't always be learned, but each bit we do learn helps us to render good service and collect on accounts.

Up to 17% of the public have slow pay habits, and 5% have no intention of paying for goods and services if they can get away with it. Some of the reasons for slow and unpaid accounts are hardship, serious and extended illness, age, domestic problems, and temporary financial embarrassment due to unemployment. There are also reasons for nonpayment that are not based on lack of money. These include delayed billing, incomplete or incorrect data, charges not made to the responsible party, misunderstood charges, unexplained services, misunderstood payment arrangements, the patient's feeling that he is treated by the office staff as a number instead of a person, the belief that the staff or part of the staff has a poor attitude, lack of interest, and long waits without any explanation.

What can be learned from these factors that will aid in higher collections? Better *awareness* will pay dividends. Also, the realization that patients seek medical help out of need will further understanding of the collection problem. A patient may be sensitive, afraid, and worried; he may have marital or financial problems. This is why every patient needs to have his treatment started with the best human relations the minute he steps into the office.

An attractive and comfortable waiting room is the first step. Because red, orange, and yellow are fast colors (they seem to make waits seem shorter), they are effective in the waiting room. Each patient should be treated as an individual from the moment he walks in. Statements and reminders should be sent out on time, and they should be followed up early and systematically. The patient's attitude toward his indebtedness and the reason his account has not been paid should be determined before a definite date for promise of payment is made. These steps make collection of accounts much easier.

If there are accounts that show no payment under the standard procedure, the patients must be sold on paying the account in full. The right attitude must be created, and then the patients must be motivated to pay. Vance Packard says that human beings have basic built-in beliefs, desires, and needs that can be used as valuable selling tools for payment of a bill. An appeal should be made to these qualities (emotional satisfaction, ego satisfaction, sense of power, sense of immortality, financial security, love of objects, sense of roots, and reassurance of worth) in such a way as to create in the patient a sense of awareness of his financial responsibilities.

The benefits that a patient will gain from paying his account may also be used for motivation. For example, most people genuinely want a favorable credit record, the satisfaction of doing the right thing, and reputation for fair play. Most also value their self respect, and prefer to pay as soon as possible simply because they don't want to worry about it anymore.

These guidelines will not solve the collection problem for all doctors, but they do offer a starting point. Treating the patient whose account is overdue as a respected person instead of a "delinquent" usually is the more successful method of collection.

Mr. Strickler, University of Texas at Austin, Division of Extension, Distributive Education Department, Austin, Texas 78712.

Texas State Board of Medical Examiners - effective, quality boardsmanship

"It is important to establish better communication with county medical societies and local physicians in order to help them with their problems and to help the individual physician understand what the Board does for him," Dr. A. Bryan Spires, Jr., secretary-treasurer of the Texas State Board of Medical Examiners, said as he discussed the activities of the Board.

Following the bustle of a Labor Day move from Fort Worth, the Board is now settled into new headquarters in Austin and has undergone some internal reorganization. The move will enable the Board to function more closely with the state government.

With the new state fiscal year Sept 1, the Board was allocated one additional investigator's salary. Dr. Spires expressed the hope that the number of investigators will gradually build up to 12. Currently there are three investigators in the field and two based in Austin, one of whom is working with the Department of Public Safety's Drug Diversion Investigation Unit. In addition, for the first time a chief investigator has been appointed to coordinate the activities of all the investigators.

Fourteen full-time employees handle the numerous day-to-day duties of the Board. These include responsibilities in the areas of licensing, domestic reciprocity, foreign reciprocity, auditing, institutional permits for interns and residents, exam and fee processing, statistics, address changes, and various other functions charged to the Board by state law. The Board also performs such service as writing letters of endorsements for physicians moving to other counties, states, and so forth.

The Texas Controlled Substances Act, passed by the 63rd Legislature, charges the Board with the collection of a $5 fee for the Department of Public Safety for the purpose of registering all physicians who will be authorized to prescribe or administer controlled substances. This is similar to the BNDD numbers issued by the federal Bureau of Narcotics and Dangerous Drugs.

Special responsibilities

Many of the areas in which the Board is involved are routine matters, Dr. Spires explained. However, an important and more publicized responsibility and service to the medical profession is one that many physicians know rather little about, according to the Board secretary. This is the investigation operation performed by the Board and the suspension, revocation, and cancellation of licenses as provided by the Medical Practice Act which limits medical practice to only those licensed by the Board.

Article 4505 of the Medical Practice Act lists the reasons for which the Board may refuse to issue a license and for which the Board may suspend, revoke, or cancel a license.

Among these reasons are fraudulently obtaining a license or diploma; conviction of a felony or crime involving moral turpitude; "habits of intemperance, or drug addiction"; unprofessional or dishonorable conduct that is likely to "deceive or defraud the public"; the use of advertising "tending to mislead or deceive the public"; and "writing prescriptions for or dispensing to a person known to be an habitual user of narcotic drugs or dangerous drugs, or to a person who the doctor should have known was an habitual user of narcotic or dangerous drugs." This provision does not apply to those persons being treated by the physician for their narcotic use after the physician notifies the Board in writing of the name and address of such person being so treated.

Administrative secretary Mary Ann Black discusses information relating to the permanent record files of physicians with Dr. Spires. She has the responsibility of managing the office and staff.

Other reasons listed include such items as the prescription or administration of a drug or treatment which is nontherapeutic in nature or nontherapeutic in the manner such drug or treatment is administered or prescribed; the purchase, sale, barter, or use —or offer to purchase, sale, barter, or use —any medical degree, diploma, license, etc.; the use of a purchased or counterfeit license or diploma; the impersonation of another in an examination for licensure; and the impersonation of a licensed practitioner.

The Board is not authorized to revoke a license for acts which only violate the standards of ethics of a voluntary association such as TMA but which are not contrary to the law.

Investigation process

John Sortore, investigator-in-charge, explained what happens when a complaint concerning an alleged violation of the Medical Practice Act is brought to the attention of the Board. An investigator is assigned to the case in the field to check the allegations completely. Mr. Sortore emphasized that the investigator seeks both affirmative and negative information in order to give a complete and unbiased view of the physician and his practice as well as concerning the alleged violation.

If the investigator finds no basis for the complaint, the file is closed at that point. Mr. Sortore pointed out that the investigation process often serves to protect and clear physicians from unjust accusations.

If an investigator finds evidence supporting a complaint, the case may be handled in several ways. If the complaint is of a minor nature, it is usually turned over to the county medical society for action. If, however, the complaint is of a more serious nature, the investigator's reports are reviewed by the investigator-in-charge and turned over to the secretary and counsel for the Board. They confer on the matter to determine if there are grounds for a hearing before the full Board.

Mr. Sortore stated that the investigators, long experienced in the field of law enforcement, do not attempt to make any decision

as to what the practice of medicine entails. Their function in investigations is solely that of finding facts. In addition to these duties, the investigators serve as information sources to doctors and are available to advise and assist physicians in regard to various laws and the Medical Practice Act.

Dr. Spires pointed out that the Board is rehabilitative rather than punitive in nature. When a license is ordered to be suspended, revoked or cancelled, the Board may, by majority vote, "probate" the order and require the physician to conform to certain conditions of probation for a length of time in order to correct the problems leading to the violation.

Successful enforcement

The 12 members of the Board, appointed by the Governor and confirmed by the Texas Senate, meet regularly four times a year with two or three called meetings occurring when needed. The Board has been most active in the field of enforcement of the provisions of the Medical Practice Act. As of December 1972, there were 21,566 registered MDs and DOs in Texas. During its most recent meeting in August, the Board issued 473 new licenses and approved for licensure 190 reciprocity applicants.

Texas Board members are also active in the Federation of State Medical Boards of the United States. Such activities Dr. Spires credits with making the Texas Board one of the top boards in the country in activities, effectiveness and quality boardsmanship.

Board members include Drs. J. G. Rodarte (MD), president, Temple; L. G. Ballard (DO), vice president, Granbury; A. B. Spires, Jr. (MD), secretary-treasurer, Austin; M. C. Butler (MD), Houston; H. R. Coats (DO), Tyler; M. H. Crabb (MD), Fort Worth; Joe Thorne Gilbert (MD), Austin; Carlos Godinez (MD), McAllen; Robert Bruce Harris (MD), Houston; G. G. Porter (DO), Lubbock; H. O .Smith (MD), Marlin; and C. E. Wysong (MD), McKinney.

New offices of the Texas State Board of Medical Examiners at 900 Southwest Tower overlook downtown Austin.

Physicians hear time management tips

Speaking before the TMA fall Conference on Medical Service and Practice Management, George S. Conomikes, president of Conomikes Associates, revealed many timely tips on time management for physicians.

Mr. Conomikes said a primary physician today spends about 40% of his working time on patient care in the office and from 10 to 15%, depending on his specialty, at the hospital dealing in patient contact. This 50% of hands-on-patient time was closer to 60% 20 years ago and from 70 to 85% two generations ago. Paperwork is a major cause of the decrease in patient care time and this is an area where many physicians have little formal training, according to the consultant.

Because society is very mobile, one of the biggest patient and time management problems is that patients do not know how to interact with a new doctor.

"Practice style has to be transmitted to the patients so they know how you operate," Mr. Conomikes stated to the physicians. "I know patients who get very offended because when they called the doctor back home, he talked to them on the phone. When they call your office, you don't answer; but your nurse does."

He told physicians to aim for the "satisfied visit"—when the patient has left and does not have to make any telephone calls because he didn't understand what the doctor was saying. One suggestion for developing clear patient relationships is a practice information booklet for patients. Mr. Conomikes commented on various points of information which should be included in the booklet.

"Practice style has to be transmitted to patients . . ."—George S. Conomikes

Information booklets

For instance, the booklet should tell how the physician deals with emergencies. It should state who patients call in an emergency, especially if the physician is their primary physician.

The booklet should also list practice hours and pertinent telephone numbers including the one for the bookkeeper. An explanation of the system of rotation for a group practice and its purpose in providing better service for patients and time off for physicians could also be helpful.

"You have to really communicate to the patients about your practice. If your nurse screens your calls, you should mention this to them," Mr. Conomikes encouraged. In addition, he said that if a physician does not want to give over-the-phone prescriptions, this should be indicated in the information booklet. Pertinent information regarding refills should also be on the prescription blank.

Other suggestions for inclusion in the information booklet are the physician's attitude on house calls, information on appointments for well-care, and an explanation of the physician's specialty.

Mr. Conomikes told of an EENT practitioner who displays in his office the types of objects he has pulled out of children's ears, throats, etc. This communicates to his patients that he does a lot of emergency surgery for them and their children.

According to Mr. Conomikes, patient information booklets have decreased incoming telephone calls between 10 and 40% in the practices which adopted their use.

Patient literature

The management consultant also discussed

Editor's note: Conomikes Associates Inc., Greenwich, Conn, was established in 1957 by George S. Conomikes and during the past five years, the firm has moved exclusively into the field of medical practice management consulting. The firm works with physicians, clinics, and groups throughout the United States and has conducted two-day workshops on practice management and practice productivity for various national medical societies on behalf of the AMA. These workshops are designed for senior residents and physicians just entering private practice. TMA has received approval from the AMA for one of 30 AMA-sponsored workshops to be conducted in Houston early in 1974. This article is a report of Mr. Conomikes' presentation in early October at TMA's Conference on Medical Service and Practice Management.

the use of patient information literature. He stated that written information and instructions relating to certain conditions or procedures will be read by the patient and will be absorbed better than the verbal instructions given in the office. In some cases, such as with serious surgery, it was suggested that the patient be brought back for a nurse-only visit. At this time the nurse can explain in great detail what the surgical procedure entails, what the consequences are, what the pain is, what the cost may be, how long the patient will be hospitalized and about the hospital. This type of visit saves many later phone calls.

Mr. Conomikes stated that some physicians are swinging very heavily into the use of the nurse for chronic visits, chronic patient management, and for patient education.

Office layout

He labeled the topic of office layout as a large contributor to lost patient care time in the office. He suggested that physicians adopt the "40 inch rule." This guideline proposes that the things a physician most frequently uses in the exam room should be within 40 inches of his reach while in his usual patient examination position. Other time and energy saving hints offered include replication of exam rooms and stand-up writing surfaces.

Work breaks

"Avoid interruptions," urged Mr. Conomikes. He suggested "work breaks" as a solution to interruptions. Each break is a designated time set aside to catch up on phone calls, messages, etc. The consultant offered other scheduling ideas for more orderly routines. Clustering of patients with similar problems allows the physician to concentrate on that problem area. Specialized hours for injections, patient information, and detail men will also avoid interruptions during regular office hours.

Mr. Conomikes emphasized the importance of good personnel. He said he believed that three highly paid employees could do the work of four lower paid ones, resulting in fewer management problems. He suggested that physicians develop a written job definition for each employee and the use of these as a job review tool.

Two of the other problem areas of office management he observed relate to records and filing. On the subject of records, he suggested the use of dictation, checklists and flow sheets to save time. He said experience shows that flow sheets make management of a patient easier, especially in a group practice.

Mr. Conomikes also described a simple technique for decreasing about 80% of filing problems. The system uses colored cardboards slightly longer than the patient charts. When a chart is pulled, a piece of cardboard is inserted for easy location for refiling. Different colors may be used for different purposes such as for insurance charts, current appointments, and so forth.

Mr. Conomikes touched on the subject of administration. He suggested that if there were two or more physicians in a practice, one should be the personnel officer; one the financial officer. He said doctors in a partnership should meet at least six times a year to solve practice problems. He said staff meetings should be held every month or at least eight or nine times a year.

The two minute meeting

Physicians should start each day with a "two minute meeting." "Bring in the nurse and whoever is involved with your appointment schedule and say 'Let's look at our workload for today,' " This technique, Mr. Conomikes said, puts the physician in control and allows necessary schedule adjustments to be made early in the day.

He urged physicians to look at their own situations to see where improvements could be made.

One of the first and most important items he always tells a new practitioner is not to dissipate his time but to develop a time concept that takes care of his own family and his own psyche as well as his practice.

MEDICINE AND THE LAW

CONSTITUTIONAL REVISION AND ITS EFFECT ON THE MEDICAL PRACTICE IN TEXAS

For several months a group of private citizens have been meeting as the Texas Constitutional Revision Commission. These people were appointed to make an in-depth study of the Texas Constitution and make recommendations to the Constitutional Convention which will meet in January, 1974 (the membership of which will be the same as the 63rd Legislature).

The Office of the General Counsel of the TMA submitted a brief in relation to one section of the current Constitution which is of concern to all physicians in Texas. After lengthy hearings and debate the Commission voted to recommend retention of Article XVI, Section 31. To assist Texas physicians in discussing this important subject with the legislators in their areas and the public, the following summary of TMA's position is given.

What Article XVI, Section 31 of the Texas Constitution says

For almost 100 years Article XVI, Section 31 of the Texas Constitution has been in existence. This section provides:

> "The Legislature may pass laws prescribing the qualifications of practitioners of medicine in this state, and to punish persons for mal-practice, but no preference shall ever be given by law to any schools of medicine."

How the Courts have interpreted Article XVI, Section 31

Ex Parte Halstead, 182 SW 2d 479 (Tex. Crim. App. 1944), which declared the 1943 Chiropractic Act unconstitutional, stated, concerning Article XVI, Section 31:

> "It is and has been the *basis* upon which has rested the legislative control over and definition of, the practice of medicine. It furnishes the direct reason why the courts have steadfastly held that if one treats or offers to treat, as a business, profession or avocation, diseases or disorders of the human body—by any mean, system, or means—he must first qualify himself to do so by taking the same examination that is required of all others doing the same thing, regardless of the system employed."

The courts have further said that the terms "schools of medicine" as used in Article XVI, Section 31, refer to *systems, means, or methods employed or schools of thought accepted by the practitioner.*

The court in the *Ex Parte Halstead* noted that one desiring a license under the Medical Practice Act had to "possess certain qualifications as to character and educational attainment." The court further said that under the Medical Practice Act the applicant must pass a satisfactory examination upon certain basic subjects and that these requirements were materially different under the Chiropractic Act.

The difference in requirements which allowed for less stringent qualifications for licensure as a chiropractor under the 1943 Chiropractic Act than a physician constituted a "preference" as listed in Article XVI, Section 31, and therefore was a violation of such section.

In a later case which eventually went all the way to the United States Supreme Court, it was held that the provisions for licensure under the Naturopathic Act and those under the Medical Practice Act were substantially and apparently different and that the Legislature had granted a preference to the naturopathic "school of medicine."

From these court decisions, it is clear that neither the language of the Constitution nor its interpretation by the courts serve to outlaw any system or method of the practice of medicine.

Article XVI, Section 31 should be retained

In speaking with reference to Article XVI, Section 31, the author of the *Citizens Guide to the Texas Constitution* stated that on its face, this section seemed both unnecessary and harmless. He stated that it was unnecessary because the Legislature had the inherent power to regulate professions and protect any group from the discrimination which would arise from the preference given to another group.

The court in *Ex Parte Halstead* stated that there is no question that, under its police

power, the Legislature is authorized to regulate and control the practice of medicine. The Legislature may also make reasonable classifications of pracitioners in that field and such classifications are *not* inhibited by the provisions of the 14th Amendment of the Federal Constitution relative to class legislation. The court stated that this was the doctrine upon which the validity of the acts of other states controlling and regulating the practice of chiropractic had been upheld and sustained. The court stated that in Texas, however, the authority of the Legislature to enact legislation touching the practice of medicine, or the healing art, has been expressly limited by the Constitution in Article XVI, Section 31.

Therefore, it can be seen that were it not for the preference provision, the Legislature could in fact make preferences as to systems, or methods employed or schools of thought accepted by a practitioner outside of the Medical Practice Act and that the Chiropractic Act which would have allowed a practitioner of chiropractic to practice medicine and would not have been limited to treating a particular organ of the body since the spinal column and its "connecting tissues" embrace the entire body.

Thus it can be seen that the author missed the point in that the section is not meant to referee any dispute between professions or protect the rights of one in those professions. Rather, it is a guarantee that for whatever reason, such as political pressure or expediency, the Legislature cannot grant any preference and that all individuals practicing medicine must meet the same educational and examination standards as are required of all other licenses.

The effect of the "no preference" clause of the provision has been to exclude from Texas various medical quacks found in other areas of the United States.

TMA is of the opinion that if a person, properly schooled and trained, desires to practice any school of medicine, and has met the standards set forth by the Medical Practice Act, then he should be at liberty to do so. The Constitution does not control, nor did it attempt to control, the licensed practitioner under the Medical Practice Act, in the system, means or method he employed. All that the Constitution requires is that if one treated or offered to treat diseases or disorders, as a calling, he must satisfactorily pass the examination required of all others within the same class and with no preference being given.

If the method of treatment used by the practitioner is chiropractic or any other school of medicine, then this is a private matter between the practitioner and his patient. The people and the government will have fulfilled their function in setting forth and enforcing regulations regarding licensure of such practitioners. The public will be assured that such practitioners have at least been exposed and examined on the principles of scientific medicine.

The constitutional provision in question assures the public that not even the Legislature will be permitted to pass a law which would give any preference as to a school of medicine. It is common to hear today that Texans and Americans have a right to health care; if so, then there should be no argument that we have a right to be assured that the doctor who treats us is qualified.

Summary

In view of the long standing retention of this section of the Constitution, the substantial content that has been added to this section by judicial opinion, the proven safeguards that it guarantees to the citizens of Texas, the dangers to the health of our citizens that could occur certainly argue well for the retention of this section of our Constitution.

The thrust of this section is protection of the health consumer. It has served the people well and no argument as to the problem of fundamental versus statutory provisions should be allowed to simplify such a serious question as the qualifications of those upon whom we set our hopes when ill.

The Texas Medical Association cannot put too strongly its deep seated feelings that Article XVI, Section 31, should not be changed and should be retained in any revision of the Constitution of Texas.

TMA Office of General Counsel
Ace Pickens

Questions/Answers

Editor's note: The following was part of a question and answer session on financial planning during the recent TMA Conference on Medical Service and Practice Management. Participating in the panel were Ben G. Marroquin, consultant, Ben G. Marroquin and Associates, Austin; Mark S. Tolle, CLU, Dallas; Eugene J. Tschoepe, CPA, Ernst and Ernst, Austin; Paul E. Martin, attorney, Fulbright, Crooker, and Jaworski, Houston; and William R. Gall, senior vice president and trust officer, Republic National Bank, Dallas. It should be emphasized that the answers given by the panel members were general in nature and that each physician is urged to consult financial experts on individual financial decisions and long-term financial planning.

Q How can you show that your farm or ranch is a business and not a hobby?

A First of all, there is now in the law a presumption that if a farm or ranch shows a profit two years out of five, it is presumed to be a business and not a hobby. In the absence of being able to do that, a number of factors must be considered. Look at the economics of the situation. Can it be shown over a long term that the amount of the investment and the amount of current operating costs can be recovered when the owner liquidates and sells the land, cattle and so on? This a major consideration even though the ranch or farm may be showing current losses. Another contributing factor would be the fact that the farm or ranch is operated as a business. That is, such activities are conducted as the keeping of records, the attempt to produce a profit and consultations with experts such as county agents on its productivity. Consult your accountant.

Q Of the three essentials mentioned for sound estate planning—provisions for the family, liquidity, and flexibility—which is most important in the opinion of the panel?

A Flexibility is very important to consider in proper estate planning, particularly in this time of such rapid change. For example, in a trust which came into being in the early 1940's, a man specified that his wife was to receive $10,000 a year upon his death. Although there was subsequently more money in the trust to pay the wife, the limitation was very clearly spelled out. In 1941 or 1942, $10,000 was quite a bit of money, but it is not very much in 1973. By allowing for such changes, the trust could have been worded in such a way that the trustee was, for instance, to pay the wife whatever income was necessary for her to maintain the standard of living she enjoyed at the time of her husband's death. Consider wife's subsequent death and its implications. This type of wording would give both guidelines and flexibility in light of family's need.

Q What are realistic returns on an investment that a doctor might consider?

A Many people are not realistic about what to expect from an investment. Looking historically at the stock market, one will find that the rates of return over a long period of years will be between 6 and 8%. Of course, specific stocks have done much better than that. What is usually considered to be a realistic rate of return on a stock investment over a period of time is a compounded growth rate of 8 to 10% a year. That may not sound like much but if a physician invested $100,000 and received 8% a year on it, at the end of ten years that $100,000 would be worth $216,000. In other words, the money was doubled. Some persons talk of getting 40 to 50% returns on investments. There are some things that one can invest in and get that type of return —once or twice. The real answer depends on the specific amount of time the doctor wants his money invested and the type of investment involved, and the physician's threshold of comfort with respect to the risks he feels he should consider when consulting his advisors.

Personals

DR. CLARENCE E. GILMORE of Paris, Tex., has taken office as president of the Texas Pediatric Society. Other officers are DR. MELVIN G. RUSSELL, Dallas, president-elect; DR. LAURANCE N. NICKEY, El Paso, vice president; DR. P. CLIFT PRICE, Austin, secretary; and DR. GEORGE M. WADDILL, JR., Amarillo, treasurer.

Joining faculty and staff at The University of Texas Southwestern Medical School and Health Science Center at Dallas is DR. CHARLES B. McCALL. He will be associate dean for clinical affairs for the medical school and director of the Office of Grants Management and Development for the Health Science Center. Dr. McCall is former coordinator of the Regional Medical Program of Texas.

Newly elected chairman of the board of trustees of the National Medical Association is DR. RAWLE ANDREWS of Houston. Dr. Andrews has been a member of the board of trustees since 1971.

DR. GERALD G. MULLIKIN, Longview, was elected assistant secretary of the American Society of Anesthesiologists at their annual meeting in October. He is director of the department of anesthesiology at Good Shepherd Hospital, Longview, and a former president of the Texas Society of Anesthesiologists.

DR. WILLIAM W. HOFFMAN, Dallas urologist, has been elected to the board of trustees of the American Association of Medical Clinics at the group's annual meeting in Los Angeles. Dr. Hoffman previously served as commissioner of the AAMC Accreditation Program.

Associate dean for the Panhandle Regional Academic Health Center at Amarillo is DR. MAURICE E. DYER of Amarillo. The announcement was made by Dr. William W. Frye, interim dean of Texas Tech University School of Medicine. Another appointment is DR. JAIME QUINTANILLA of Amarillo, who will be associate chairman of the TTUSM department of psychiatry in Amarillo.

Texas Medicine erroneously reported the title of the Houston Pediatric Society as the Harris County Academy of Pediatrics in the September issue. Dr. Richard Plumb is president of the pediatric society. In that issue also Dr. S. Donald Greenberg's initial was inadvertently transposed. Dr. Greenberg is president of the Houston Society of Clinical Pathologists.

"You'll have to sit here and wait until your heart and kidneys arrive."

Medicine in literature

IN THE TMA LIBRARY

Apgar Virginia, Beck Joan: *Is My Baby All Right?,* New York, Trident Press, 1972.

Arieti Silvano: *The World Biennial of Psychiatry and Psychotherapy,* vol 1, New York, 1970.

Armstrong Katharine F: *Bailliere's Atlas of Male Anatomy,* ed 5, London, Bailliere, Tindall Cassell, 1967.

Barsky David: *Color Atlas of Pathology of the Eye,* New York, McGraw-Hill, 1965.

Freemon, FR: *Sleep Research: a critical review.* Springfield, Ill, Charles C Thomas, 1972.

Frost, HM: *Bone Remodeling and its Relationship to Metabolic Bone Diseases,* vol 3 in *Orthopaedic Lectures,* Springfield, Ill, Charles C Thomas, 1973.

Israel Y, Mardones J, eds: *Biological Basis of Alcholism.* New York, Wiley-Interscience, 1971.

Marks G, Beatty WK: *Women in White; their role as doctors through the ages.* New York, Charles Scribner's Sons, 1972.

Modell JH: *The Pathophysiology and Treatment of Drowning and Near-Drowning,* Springfield, Ill., Charles C Thomas, 1971.

Pauling Linus: *Vitamin C and The Common Cold,* San Francisco, W. H. Freeman & Co, 1970.

Pribram Karl H, Broadbent Donald E: *Biology of Memory,* New York, Academic Press, 1970.

Ramwell Peter W: *The Prostaglandins,* vol 1, New York, Plenum Press, 1973.

Rogers CR: *Freedom to Learn,* Columbus, Ohio, Charles E. Merrill, 1969.

Sadler AM, Sadler BL, and Bliss AA: *The Physician's Assistant—Today and Tomorrow,* New Haven, Conn., Yale University School of Medicine, 1972.

Salhanick HA and others, *Metabolic Effects of Gonadal Hormones and Contraceptive Steroids,* New York, Plenum Press, 1969.

Schultz Robert Jordan: *The Language of Fractures,* Baltimore, Williams & Wilkins, 1972.

Skinner DV, Belsey RHR, Hendrix TR, et al, eds: *Gastroesophageal Reflux and Hiatal Hernia,* Little, Brown and Co., 1972.

Smith DE, and Luce John: *Love Needs Care,* Boston, Little, Brown, and Co., 1971.

Springer EW, ed: *Automated Medical Records and the Law,* Pittsburgh, Pa., Health Law Center (Div., Aspen Systems Corporation), 1971.

Steptoe PC: *Laparoscopy in Gynaecology,* E & S Livingston, Ltd., 1967.

Stoll BA, ed: *Endocrine Therapy in Malignant Diseases,* Philadelphia, W. B. Saunders, 1972.

Stovya Johann, ed: *Biofeedback and Self-Control, 1971,* Aldrin-Atherton, Chicago, 1971.

Stuart RB, and Davis B: *Slim Chance in a Fat World: Behavioral Control of Obesity,* Champaign, Ill., Research Press Co., 1972.

Tanzer Deborah: *Why Natural Childbirth?* New York, Doubleday & Co., 1972.

RECENTLY DECEASED MEMBERS OF THE TEXAS MEDICAL ASSOCIATION

M. I. BARGER
Mexia, 1915-1973

R. G. CARPENTER
Dallas, 1901-1973

C. E. FREY
Houston, 1889-1973

W. F. KAHLE
Houston, 1898-1973

H. E. KENNAMER
Overton, 1910-1973

G. E. KNOLLE, SR.
Houston, 1898-1973

W. P. MEREDITH
Del Rio, 1894-1973

A. J. MORRIS
Fort Worth, 1907-1973

S. J. PEDICO
Denton, 1930-1973

G. T. ROYSE
Amarillo, 1903-1973

O. O. SMITH
Texas City, 1917-1973

W. B. VEAZEY
Huntsville, 1906-1973

IN MEMORIAM

The Memorial Library of the Texas Medical Association stands as a permanent memorial to physicians who have served their patients, their profession, and the people of Texas so faithfully over the years.

The Library ranks as one of the finest in the nation. It is providing more than 10,000 reference requests, 3,500 tapes and cassettes, and 2,500 films each year to physicians, students, and to those seeking information related to medicine and health care. The resources of the Library include 60,000 volumes, 400 tapes, and 300 scientific and lay films; more than 1,300 professional journals are received monthly. Services are provided without charge.

Contributions to the Texas Medical Memorial Library Fund are invested in a permanent fund and are managed by the Board of Trustees of the Texas Medical Association. Dividends are used to purchase new books and to operate the Library.

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Recent deaths

Dr. M. I. Barger
Mexia family physician, Dr. Marius Irvan Barger, died July 21, 1973, in Methodist Hospital, Houston. He was 58 years old.
Dr. Barger received his preliminary education in Lamar, Ark., and a BA degree from Southeastern State College, Durant, Okla. He served as a lieutenant in the US Navy in World War II, prior to entering the University of Arkansas School of Medicine, Little Rock, where he received an MD degree in 1950. After an internship at Santa Rosa Medical Center, San Antonio, Dr. Barger moved to Mexia to establish his practice.
Dr. Barger was a member of Limestone County Medical Society, Texas Medical Association, Arkansas Medical Society, American Medical Association, and American Academy of Family Physicians.
He is survived by his wife, Ruth Strange Barger; two sons, Donald Barger and Paul Barger, all of Mexia; four sisters and one brother.

Dr. W. B. Veazey
Huntsville family physician, William Barry Veazey, died March 18, 1973, after a long illness.
Born in Van Alstyne, Tex., Dr. Veazey received a BA degree from The University of Texas at Austin, and an MD degree from The University of Texas Medical Branch at Galveston. He externed at Wilson N. Jones Hospital, Sherman, from 1928 until 1929, and completed an internship at Harris Hospital, Fort Worth, in 1930. After a short practice in Fort Worth, Dr. Veazey moved to Huntsville where he practiced until his death.
In addition to memberships in Texas Medical Association, American Medical Association, and American Academy of Family Physicians, Dr. Veazey was Walker County health officer for many years. He was also chief of staff of the Huntsville Memorial Hospital for several terms during his 41 years of practice in Huntsville.
Surviving Dr. Veazey are his wife, Vera Veazey, Huntsville; one daughter, Mrs. Linda Pessoney, Hattiesburg, Miss.; one son, W. B. Veazey, Jr., Victoria, Tex.; a sister, Mrs. Mary Jane Stewart, Houston; and four grandchildren.

Dr. Barger

Dr. Veazey

Dr. S. J. Pedigo
Denton family physician, Smith James Pedigo died June 20, 1973, after a long illness. He was 42 years old.
Dr. Pedigo received a BA from North Texas University, Denton, and an MD from The University of Texas Medical Branch at Galveston. He completed an internship at John Peter Smith Hospital, Fort Worth, before serving two years as a lieutenant in the US Navy. After release from the service, Dr. Pedigo returned to John Peter Smith Hospital where he was chief resident. He moved to Denton in 1959 to establish his practice.
Dr. Pedigo was past-president of Flow Memorial Hospital Staff and of the Denton County Medical Society. He was also a member of American Academy of Family Physicians, Texas Medical Association, and American Medical Association.
He is survived by his wife, Ann Brightwell Pedigo; three sons, Scott James, John Christopher, and Samuel Thomas; and mother, Mrs. Lera Pedigo Brightwell; all of Denton.

Dr. Pedigo

Dr. Meredith

Dr. Royse

Dr. Kahle

Dr. W. P. Meredith

Retired family physician, William Page Meredith, died Aug. 8, 1973, in Nix Hospital, San Antonio. He was 79 years old.

Dr. Meredith earned an MD degree from The University of Texas Medical Branch at Galveston. He completed an internship at St. Joseph's Infirmary, Houston, and a residency at Baylor University Medical Center, Dallas. During his medical career, Dr. Meredith practiced in three Texas towns, Pecos, Willis, and Del Rio, and in Nigeria, West Africa. Following 37 years of medical practice in Del Rio, Dr. Meredith retired in San Antonio.

Dr. Meredith served as secretary, vice president, and president of Nine Counties Medical Society, and was a member of Bexar County Medical Society, Texas Medical Association, and American Medical Association.

He is survived by his wife, Dalkeith Watson Meredith; one daughter, Mrs. Anna Jo Shirtum; both of San Antonio; one son, W. P. Meredith, Jr., DDS, Del Rio; eight grandchildren; and five great-grandchildren.

Dr. G. T. Royse

George Thomas Royse, Amarillo family physician, died July 25, 1973. He was 70 years old.

Dr. Royse was in the first graduating class of the University of Arkansas School of Medicine at Little Rock. He completed an internship at St. Anthony Hospital in Amarillo in 1927, and served as city-county health commissioner in Amarillo from 1926 to 1942. He served as a commander in the US Navy for four years before returning to Amarillo where he was in private practice until his death.

He was a member of American Academy of Family Physicians, Texas Medical Association, American Medical Association, and Potter-Randall County Medical Society.

Dr. Royse is survived by his wife, Alawin Jordan Royse, Amarillo; two daughters, Mrs. Roberta Streicher, New York City, and Mrs. Marjorie Taylor, Amarillo; and two sons, George T. Royse, Jr., Denver, and John A. Royse, Washington, DC; 13 grandchildren and two great-grandchildren.

Dr. W. F. Kahle

Retired Houston internist, Warren Francis Kahle, died Aug. 8, 1973, in Houston. Myocardial infarction caused the death of the 74-year-old physician.

A native of Ohio, Dr. Kahle received an MD degree from The University of Pennsylvania School of Medicine, and completed an internship at Ohio State University Hospital, Columbus, Ohio. He practiced in New Rochelle, NY, prior to moving to Houston.

Dr. Kahle served in the US Marine Corps during World War I, and in the US Navy during World War II. He moved to Houston in 1947, and continued his practice of medicine until his retirement in 1971.

Elected to inactive membership in Texas Medical Association in 1972, Dr. Kahle also held memberships in American College of Physicians, American Academy of Allergy, American College of Allergists, Harris County Medical Society, and American Medical Association.

The physician is survived by his wife, Kathryn Greer Kahle; and two sons, Warren Greer Kahle and Roger Neal Kahle; all of Houston.

Dr. G. E. Knolle, Sr.

Dr. Guy Edmund Knolle, Sr., died June 19, 1973, in a Houston hospital of a heart attack. He was 74 years old.

Dr. Knolle was graduated from Tulane University School of Medicine and completed an internship at Touro Infirmary, New Orleans, before entering practice with his father in Brenham. Two years later, he moved to Houston and was associated with the Houston Clinic. In 1937, Dr. Knolle returned to New Orleans for further study in the specialty field of ophthalmology after which he established a private practice in Houston. Prior to his retirement, Dr. Knolle was in practice with his son, who is also an ophthalmologist.

A member emeritus of the Houston Ophthalmological Society and an honorary member of Texas Medical Association, Dr. Knolle was also a member in Texas Society of Ophthalmology and Otolaryngology, Harris County Medical Society, American Academy of Ophthalmology and Otolaryngology, American Board of Ophthalmology, and American Medical Association.

He is survived by his wife, Ruth Hilliard Knolle; two sons, Dr. Guy E. Knolle, Jr., and Dr. Jon Warren Knolle; all of Houston; and a sister, Mrs. Willie Mae Hasskarl, Brenham.

Dr. O. O. Smith

Texas City family physician, Dr. Otto O. Smith, died Aug. 2, 1973. He was 56 years old.

A native of New Mexico, Dr. Smith completed his preliminary education in Muleshoe, Texas. After serving in the US Army for four years, Dr. Smith entered The University of Texas at Austin where he received a BA degree. He was graduated with an MD degree from The University of Texas Medical Branch at Galveston in 1953. Dr. Smith completed an internship at Denver General Hospital, Denver, and in 1954, moved to Texas City where he established his practice.

Dr. Smith held memberships in Galveston County Medical Society, Texas Medical Association, and American Medical Association.

He is survived by his wife, Kathryn Johnson Smith; two sons, Wade Kent Smith and Joel William Smith; two daughters Marta Kay Smith and Molly Jane Smith; all of Texas City; and one sister, Mrs. Ruby Mae Lovelady, Amarillo.

Dr. C. E. Frey

Retired Houston neuropsychiatrist, Dr. Clarence Elmer Frey died Sept. 15, 1973, at the age of 83.

A native of Lincoln, Neb., Dr. Frey was graduated from Eclectic Medical College, Cincinnati, Ohio, with an MD degree in 1919. After completion of an internship and residency at St. Elizabeth's Hospital, Lincoln, Neb., Dr. Frey established his practice in Lincoln where he remained until he moved to Houston in 1938. He semi-retired in 1964.

Elected to inactive membership in Texas Medical Association in 1971, Dr. Frey was also a member of Harris County Medical Society, American Medical Association, and Houston Psychiatric Society.

He is survived by his wife, Ruth Lesseraux Frey, Houston; three sons, Clarence Van P. Frey, Fisher, Tex. Ronald Frey and Robert Frey, both of Houston; one daughter, Galen Frey Ojeda, Houston; two brothers, Lawrence Frey, Channelview and Ernest Frey, Houston; and four grandchildren.

Dr. Knolle, Sr.

Dr. Smith

Dr. Frey

Dr. Carpenter

Dr. Morris

Dr. R. G. Carpenter

Robert Garland Carpenter, retired family physician, died Sept. 6, 1973, in Dallas. He was 72 years old.

Dr. Carpenter received a BA degree from Baylor University. He earned an MD degree from Baylor College of Medicine and completed an internship at the US Marine Hospital, Stapleton, NY. Prior to entering the service in 1942, Dr. Carpenter practiced in Ferris and Dallas. After serving as a captain in the US Army in North Africa for one year, he returned to Dallas where he continued his practice until his retirement in 1969.

He was a member of Dallas County Medical Society, Southern Medical Association, American Academy of Family Physicians, and American Medical Association. He was elected to inactive membership in the Texas Medical Association in 1970.

He is survived by his wife, Leila Virginia Nicholson Carpenter, Morgan; and three sons, Robert Garland Carpenter, Jr., Dallas, Daniel Britton Carpenter, Houston, and Charles David Carpenter, Morgan.

Dr. A. J. Morris

Retired family physician, Dr. Abner James Morris died May 3, 1973, of carcinoma of the prostate. Dr. Morris was 66 years old.

He received a BA degree from Abilene Christian College, Abilene, and an MD degree from Baylor College of Medicine. He interned at Parkland Hospital, Dallas, and completed a residency at St. Joseph's Hospital, Fort Worth. He practiced in Fort Worth until 1942, when he served in the US Navy as a lieutenant commander for three years. Following his discharge, he re-established his practice in Fort Worth where he remained active until his retirement in 1973.

Dr. Morris was a member of Tarrant County Medical Society, Texas Medical Association, and American Medical Association.

He is survived by his wife, Eudell Blasingame Morris, Fort Worth; two daughters, Betty Morris Foy, Fort Worth, and Melissa Morris Jackson, Eastland, Texas; and one sister, Miss Julia Morris, Fort Worth.

Dr. H. E. Kennamer

Dr. Harold E. Kennamer, Overton family physician, died Aug. 26, 1973, in a Dallas hospital following a long illness.

Born in 1910, Dr. Kennamer received a BS degree from Arkansas State Teacher's College. After teaching for several years, he entered the University of Arkansas Medical School where he received an MD degree in 1948. Upon completion of an internship at Arkansas Baptist Hospital, Little Rock, Dr. Kennamer established a practice in Marked Tree, Ark. In 1953, he moved to Overton where he continued to practice medicine until his death.

Dr. Kennamer served as president of the Rusk County Medical Society for two years. He was also president of the Rusk County Heart Association and was on the board of directors of Rusk County Tuberculosis Association. In addition, he was a member of American Academy of Family Physicians, Texas Medical Association, and American Medical Association.

He is survived by his wife, Alma Lieblong Kennamer, Overton; one son, John H. Kennamer, Houston; two brothers and four sisters.

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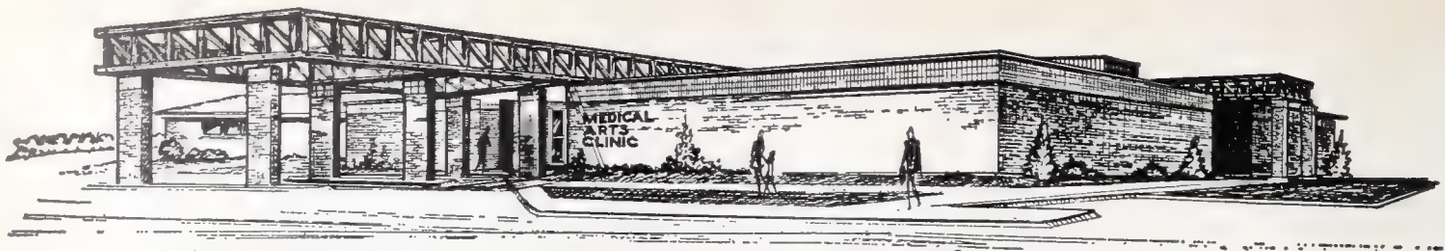

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Maybe the patient's self-diagnosis is right. He could have hay fever. But that bright red nasal mucosa, along with the thick discharge and excoriation around the nares, strongly suggests that the main problem is a cold. Hay fever or another form of allergic rhinitis may or may not be an underlying factor.

If a complete history and examination rule out allergic rhinitis, the long-term outlook will be a lot more favorable than his own "diagnosis" would have indicated.

But right now, whether he's got allergic rhinitis or a cold, he's suffering from the same irritating symptoms of drip, congestion and stuffiness. Try DIMETAPP EXTENTABS®. They're formulated to relieve these symptoms without much chance of causing drowsiness or overstimulation. Your patients will appreciate the 24-hour relief they can get from just one tablet every 12 hours.

Cold or

Allergy?

Whether it's a cold or an allergy, Dimetapp Extentabs® effectively relieve stuffiness, drip and congestion.

INDICATIONS: Dimetapp Extentabs are indicated for symptomatic relief of allergic manifestations of upper respiratory illnesses, such as the common cold, seasonal allergies, sinusitis, rhinitis, conjunctivitis and otitis. In these cases it quickly reduces inflammatory edema, nasal congestion and excessive upper respiratory secretions, thereby affording relief from nasal stuffiness and postnasal drip.
CONTRAINDICATIONS: Hypersensitivity to antihistamines of the same chemical class. Dimetapp Extentabs are contraindicated during pregnancy and in children under 12 years of age. Because of its drying and thickening effect on the lower respiratory secretions, Dimetapp is not recommended in the treatment of bronchial asthma. Also, Dimetapp Extentabs are contraindicated in concurrent MAO inhibitor therapy.
WARNINGS: *Use in children:* In infants and children particularly, antihistamines in overdosage may produce convulsions and death.
PRECAUTIONS: Administer with care to patients with cardiac or peripheral vascular diseases or hypertension. Until the patient's response has been determined, he should be cautioned against engaging in operations requiring alertness such as driving an automobile, operating machinery, etc. Patients receiving antihistamines should be warned against possible additive effects with CNS depressants such as alcohol, hypnotics, sedatives, tranquilizers, etc.
ADVERSE REACTIONS: Adverse reactions to Dimetapp Extentabs may include hypersensitivity reactions such as rash, urticaria, leukopenia, agranulocytosis, and thrombocytopenia; drowsiness, lassitude, giddiness, dryness of the mucous membranes, tightness of the chest, thickening of bronchial secretions, urinary frequency and dysuria, palpitation, hypotension/hypertension, headache, faintness, dizziness, tinnitus, incoordination, visual disturbances, mydriasis, CNS-depressant and (less often) stimulant effect, anorexia, nausea, vomiting, diarrhea, constipation, and epigastric distress
HOW SUPPLIED: Light blue Extentabs in bottles of 100 and 500.

Dimetapp Extentabs®

Dimetane® (brompheniramine maleate), 12 mg.; phenylephrine HCl, 15 mg.; phenylpropanolamine HCl, 15 mg.

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when pain goes on... and on... and on–

For the patient with a terminal illness, PAIN past, present, and future can dominate his thoughts until it becomes almost an obsession. The more he is aware of the pain he is now experiencing, the more difficult it is to erase his memory of yesterday's pain, and to allay his fearful anticipation of tomorrow's pain.

Surely the last thing this patient needs is an analgesic containing caffeine to stimulate the senses and heighten pain awareness. A far more logical choice is Phenaphen with Codeine. The sensible formula provides ¼ grain of phenobarbital to take the nervous "edge" off, so the rest of the formula can help control the pain more effectively. Don't you agree, Doctor, that psychic distress is an important factor in most of your terminal and long-term convalescent patients?

the analgesic formula that calms instead of caffeinates

Phenaphen with Codeine

Phenaphen with Codeine No. 2, 3, or 4 contains: Phenobarbital (¼ gr.), 16.2 mg. (warning: may be habit forming); Aspirin (2½ gr.), 162.0 mg.; Phenacetin (3 gr.), 194.0 mg.; Codeine phosphate, ¼ gr. (No. 2), ½ gr. (No. 3) or 1 gr. (No. 4) (warning: may be habit forming)

Indications: Provides relief in severer grades of pain, on low codeine dosage, with minimal possibility of side effects. Its use frequently makes unnecessary the use of addicting narcotics. **Contraindications:** Hypersensitivity to any of the components. **Precautions:** As with all phenacetin-containing products, excessive or prolonged use should be avoided. **Side effects:** Side effects are uncommon, although nausea, constipation and drowsiness may occur. **Dosage:** Phenaphen No. 2 and No. 3—1 or 2 capsules every 3 to 4 hours as needed; Phenaphen No. 4—1 capsule every 3 to 4 hours as needed. For further details see product literature.

Ⓒ III Phenaphen with Codeine is now classified in Schedule III, Controlled Substances Act of 1970. Available on written or oral prescription and may be refilled 5 times within 6 months, unless restricted by state law.

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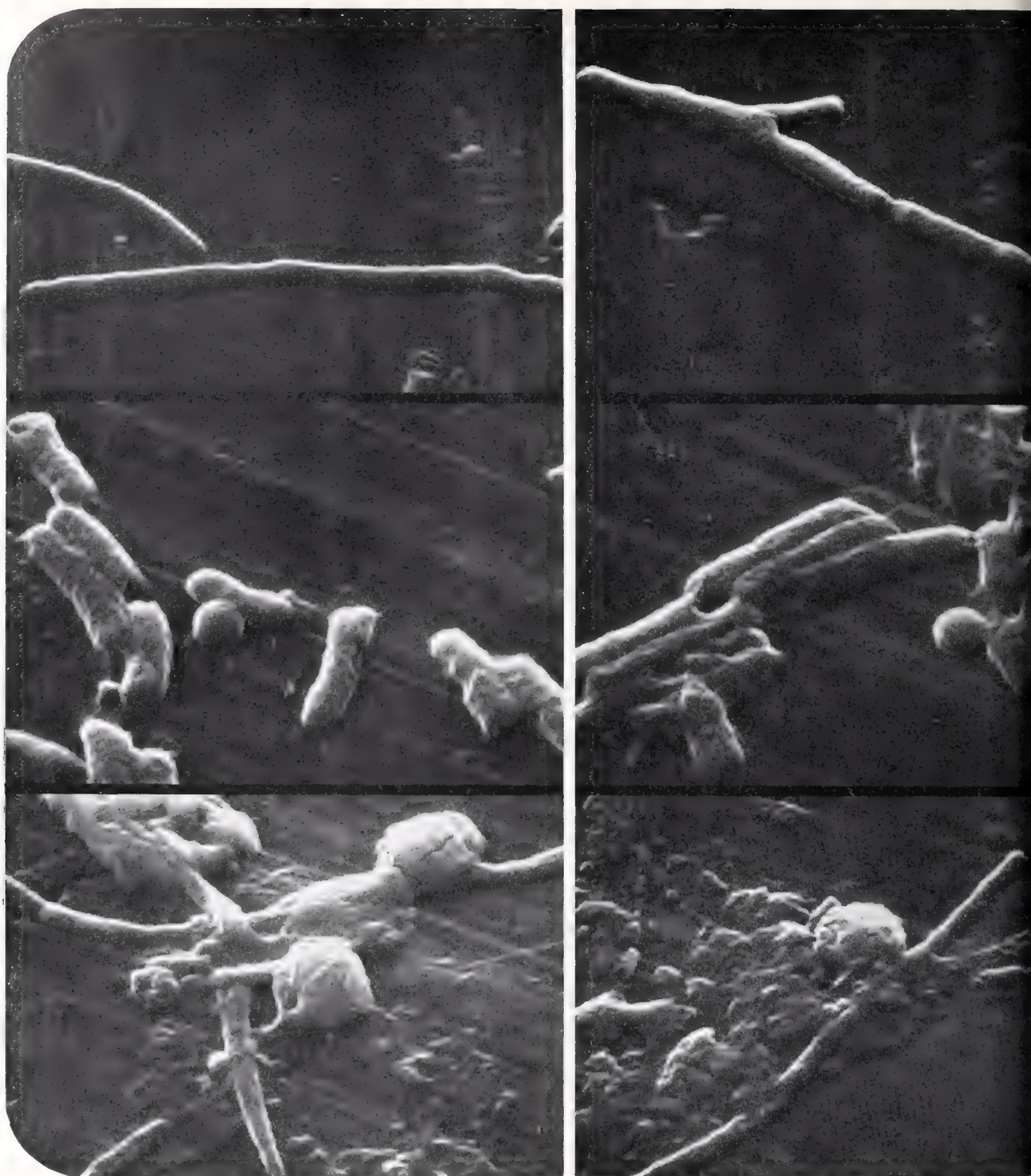
Similar elongations occur regardless of antibacterial used.

1.0 M.I.C. for three hours
Similar midcell defects seen with increased antibacterial concentrations.

10 M.I.C. for three hours
Similar spheroplast-like forms appear with high concentrations of the antibacterials.



E. coli + sulfamethoxazole | **E. coli + tetracycline**

The Scanning Electron Microscope (SEM) reveals the effect

The *in vitro* experiment. These SEM photomicrographs were taken as part of a study exploring the effects of various antibacterials with different modes of action on the surface morphology of bacteria. The scanning electron microscope was used because of its ability to show three-dimensional views of organisms, enabling better definition and appreciation of surface morphology.

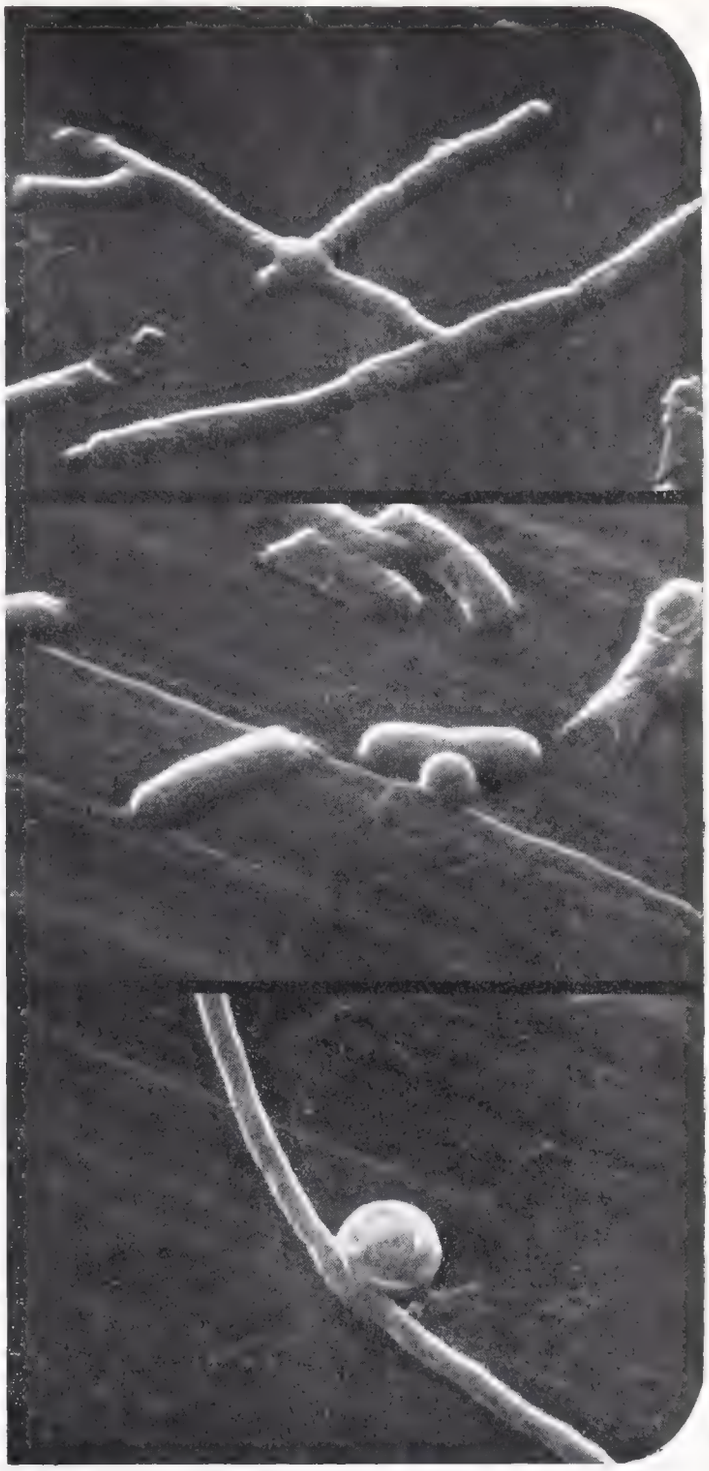
For this portion of the experiment, *E. coli* were exposed to the following agents: sulfamethoxazole, a chemical drug which acts by interference with para-aminobenzoic acid utilization; tetracycline, which inter feres with intracellular protein synthesis; and cephalothin and ampicillin, which are cell-wall-active drugs.

Strains of *E. coli,* each susceptible to the respective antibacterials, were exposed for 15, 30, 60, 120 and 180 minutes and 18 hours to several concentrations of each agent.

Following the 180-minute or three-hour exposures to the antibacterials at 0.1 M.I.C., 1.0 M.I.C. and 10 M.I.C., photoscans of the *E. coli* were taken. As shown above, regardless of the antibacterial agent used or its mode of action, the changes in surface morphology were remarkably similar...elongation at low drug concentrations, midcell defects at higher

Three-Dimensional World of SEM

E. coli + cephalothin



E. coli + ampicillin

of certain antibacterials on bacterial surface morphology

concentrations and ultimate progression to spheroplast-like forms.[1]

The interpretation. "At present, the significance of these observations in clinical infection must be considered with caution, but it is hoped that these data will stimulate a reevaluation of present concepts of the nature and role of morphological variants of bacteria exposed to a variety of antibacterial factors."[2]

It should be noted that this information represents only *in vitro* research. No clinical significance can be drawn from this study concerning the effectiveness of any of the agents discussed, as it is not possible to extrapolate *in vitro* data to humans. This information is presented to demonstrate the continuing research activities in the area of antibacterials, particularly modes of action and surface morphology.

[1]Data on file, Hoffmann-La Roche Inc., Nutley, N.J.

[2]*Antimicrob. Agents Chemother., 1*:164, 1972.

See next two pages for product information.

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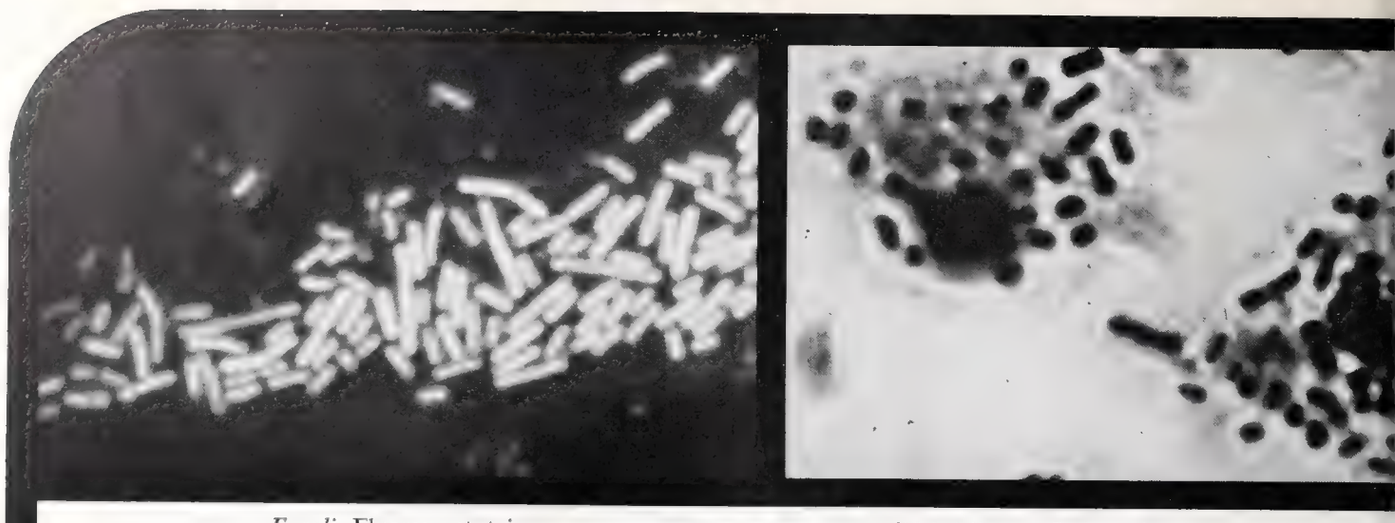
Observations from



E. coli—Fluorescent stain

Klebsiella sp.—Stain to define capsular envelope

■ **Effective control of primary susceptible bacterial offenders**

Gantanol® (sulfamethoxazole) is effective against susceptible strains of *E. coli*, the most common cause of urinary tract infections. It is also highly effective against other susceptible gram-negative and gram-positive organisms, usually *Klebsiella-Aerobacter, Staph. aureus* and *Proteus mirabilis*.

■ **Prompt antibacterial blood and urine levels—in from 2 to 3 hours**

Antibacterial levels of Gantanol usually appear in blood and urine in from 2 to 3 hours after the initial 2-Gm adult dose. This rapid initiation of effective antibacterial activity enables prompt treatment of certain nonobstructed urinary tract infections and may also help avert possible sequelae.

■ **Around-the-clock coverage for 14 days**

Mounting evidence in current medical literature suggests a minimum of 14 days' continuous therapy for certain urinary tract infections.* Following the initial 2-Gm adult dosage of Gantanol each 1-Gm dose provides up to 12 hours of antibacterial activity during the treatment period. When urinary tract infection is more severe, *t.i.d.* (q. 8 h.) dosage schedule may be required. Both regimens provide around-the-clock therapy, important because normal urinary retention during sleep tends to favor bacterial proliferation. It is also convenient for patients not to have to take middle-of-the-night medication.

■ **Also effective in certain nonobstructed chronic and recurrent urinary tract infection**

Nonobstructed urinary tract infections, such as cystitis or pyelonephritis—chronic and/or recurrent—develop more commonly in the elderly and debilitated, and response to Gantanol is often highly satisfactory.

Before prescribing, please consult complete product information, a summary of which follows:

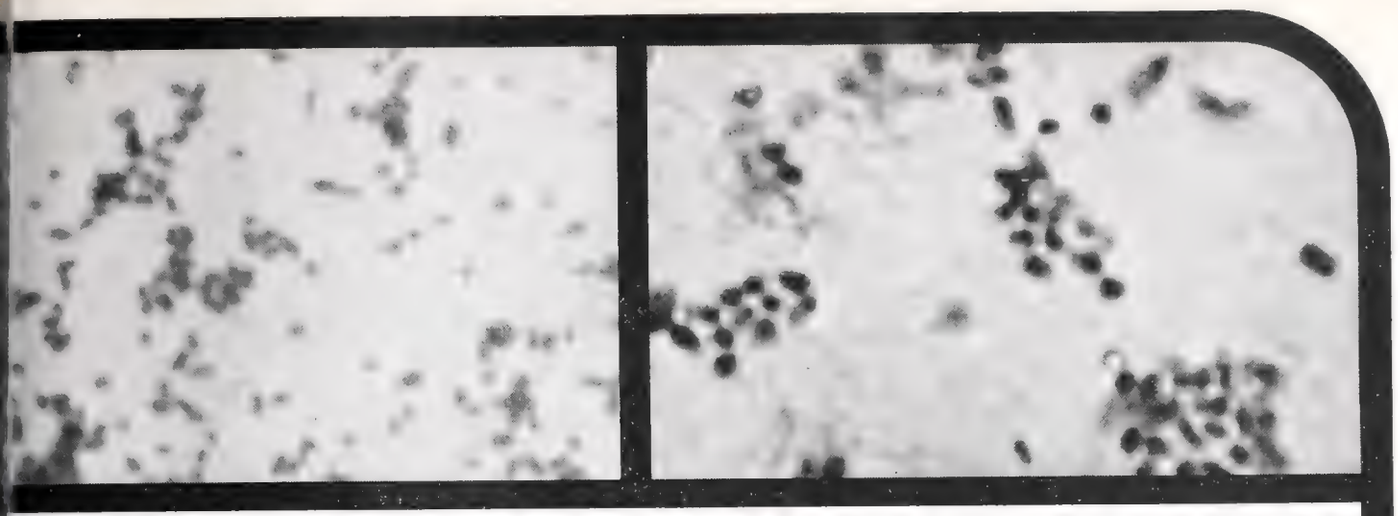
Indications: Acute, recurrent or chronic nonobstructed urinary tract infections (primarily pyelonephritis, pyelitis and cystitis) due to susceptible organisms. **Note: Carefully coordinate *in vitro* sulfonamide sensitivity tests with bacteriologic and clinical response; add aminobenzoic acid to follow-up culture media. The increasing frequency of resistant organisms limits the usefulness of antibacterials including sulfonamides, especially in chronic or recurrent urinary tract infections.** Measure sulfonamide blood levels as variations may occur; 20 mg/100 ml should be maximum total level.

Contraindications: Sulfonamide hypersensitivity; pregnancy at term and during nursing period; infants less than two months of age.

Warnings: Safety during pregnancy has not been established. Sulfonamides should not be used for group A beta-hemolytic streptococcal infections and will not eradicate or prevent sequelae (rheumatic fever, glomerulonephritis) of such infections. Deaths from hypersensitivity reactions, agranulocytosis, aplastic anemia and other blood dyscrasias have been reported and early clinical signs (sore throat, fever, pallor, purpura or jaundice) may indicate serious blood disorders. Frequent CBC and urinalysis with microscopic examination are recommended during sulfonamide therapy. Insufficient data on children under six with chronic renal disease.

Precautions: Use cautiously in patients with impaired renal or hepatic function, severe allergy, bronchial asthma; in glucose-6-phosphate dehydrogenase-deficient individuals in whom dose-related hemolysis may occur. Maintain adequate fluid intake to prevent crystalluria and stone formation.

Adverse Reactions: *Blood dyscrasias* (agranulocytosis, aplastic anemia, thrombocytopenia, leukopenia, hemolytic anemia, purpura, hypoprothrombinemia and methemoglo-



Enterobacter sp.—Gram stain showing characteristic gram-negative rod

Proteus mirabilis—Flagella stain

■ **Your option: tablets or suspension**

Gantanol Tablets or the pleasant-tasting, cherry-flavored Suspension can provide dependable antibacterial activity to control susceptible nonobstructed cystitis and pyelonephritis. Symptomatic improvement usually may be expected to begin within 24 to 48 hours. Usual precautions with sulfonamide therapy should be observed, including adequate fluid intake. Gantanol is generally well tolerated, with relative freedom from complications; the most common side effects are nausea, vomiting and diarrhea. Frequent c.b.c.'s and urinalyses with microscopic examination are recommended during therapy.

*Data on file, Hoffmann-La Roche Inc., Nutley, N.J.

In nonobstructed cystitis due to susceptible organisms

Gantanol® B.I.D. (sulfamethoxazole) Basic therapy

binemia); *allergic reactions* (erythema multiforme, skin eruptions, epidermal necrolysis, urticaria, serum sickness, pruritus, exfoliative dermatitis, anaphylactoid reactions, periorbital edema, conjunctival and scleral injection, photosensitization, arthralgia and allergic myocarditis); *gastrointestinal reactions* (nausea, emesis, abdominal pains, hepatitis, diarrhea, anorexia, pancreatitis and stomatitis); *CNS reactions* (headache, peripheral neuritis, mental depression, convulsions, ataxia, hallucinations, tinnitus, vertigo and insomnia); *miscellaneous reactions* (drug fever, chills, toxic nephrosis with oliguria and anuria, periarteritis nodosa and L. E. phenomenon). Due to certain chemical similarities with some goitrogens, diuretics (acetazolamide, thiazides) and oral hypoglycemic agents, sulfonamides have caused rare instances of goiter production, diuresis and hypoglycemia as well as thyroid malignancies in rats following long-term administration. Cross-sensitivity with these agents may exist.

Dosage: Systemic sulfonamides are contraindicated in infants under 2 months of age (except adjunctively with pyrimethamine in congenital toxoplasmosis).

Usual adult dosage: 2 Gm (4 tabs or teasp.) initially, then 1 Gm *b.i.d* or *t.i.d.* depending on severity of infection.

Usual child's dosage: 0.5 Gm (1 tab or teasp.)/20 lbs of body weight initially, then 0.25 Gm/20 lbs *b.i.d.* Maximum dose should not exceed 75 mg/kg/24 hrs.

Supplied: Tablets, 0.5 Gm sulfamethoxazole; Suspension, 0.5 Gm sulfamethoxazole/teaspoonful.

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1974 TEXAS CONTINUING EDUCATION DIRECTORY

. . . in the January 1974 issue of TEXAS MEDICINE

PROLOID® (thyroglobulin)
Caution: Federal law prohibits dispensing without prescription.

Description. Proloid (thyroglobulin) is obtained from a purified extract of frozen hog thyroid. It contains the known calorigenically active components, Sodium Levothyroxine (T_4) and Sodium Liothyronine (T_3). Proloid (thyroglobulin) conforms to the primary USP specifications for desiccated thyroid—for iodine based on chemical assay—and is also biologically assayed and standardized in animals.

Chromatographic analysis to standardize the Sodium Levothyroxine and Sodium Liothyronine content of Proloid (thyroglobulin) is routinely employed.

The ratio of T_4 and T_3 in Proloid (thyroglobulin is approximately 2.5 to 1.

Proloid (thyroglobulin) is stable when stored at usual room temperature.

Indications. Proloid (thyroglobulin) is thyroid replacement therapy for conditions of inadequate endogenous thyroid production: e.g., cretinism and myxedema. Replacement therapy will be effective only in manifestations of hypothyroidism.

In simple (nontoxic) goiter, Proloid (thyroglobulin) may be tried therapeutically, in nonemergency situations, in an attempt to reduce the size of such goiters.

Contraindication. Thyroid preparations are contraindicated in the presence of uncorrected adrenal insufficiency.

Warnings. Thyroglobulin should not be used in the presence of cardiovascular disease unless thyroid-replacement therapy is clearly indicated. If the latter exists, low doses should be instituted beginning at 0.5 to 1.0 grain (32 to 64 mg) and increased by the same amount in increments at two-week intervals. This demands careful clinical judgment.

Morphologic hypogonadism and nephroses should be ruled out before the drug is administered. If hypopituitarism is present, the adrenal deficiency must be corrected prior to starting the drug.

Myxedematous patients are very sensitive to thyroid and dosage should be started at a very low level and increased gradually.

Precaution. As with all thyroid preparations this drug will alter results of thyroid function tests.

Adverse Reactions. Overdosage or too rapid increase in dosage may result in signs and symptoms of hyperthyroidism, such as menstrual irregularities, nervousness, cardiac arrhythmias, and angina pectoris.

Dosage and Administration. Optimal dosage is usually determined by the patient's clinical response. Confirmatory tests include BMR, T_3 ^{131}I resin sponge uptake, T_3 ^{131}I red cell uptake, Thyro Binding Index (TBI), and Achilles Tendon Reflex Test. Clinical experience has shown that a normal PBI (3.5-8 mcg/100 ml) will be obtained in patients made clinically euthyroid when the content of T_4 and T_3 is adequate. Dosage should be started in small amounts and increased gradually with increments at intervals of one to two weeks. Usual maintenance dose is 0.5 to 3.0 grains (32 to 190 mg) daily.

Overdosage Symptoms. Headache, instability, nervousness, sweating, tachycardia, with unusual bowel motility. Angina pectoris or congestive heart failure may be induced or aggravated. Shock may develop. Massive overdosage may result in symptoms resembling thyroid storm. Chronic excessive dosage will produce the signs and symptoms of hyperthyroidism.

(Treatment: In shock, supportive measures should be utilized. Treatment of unrecognized adrenal insufficiency should be considered.)

How Supplied. ¼ grain; ½ grain; scored 1 grain; 1½ grain; scored 2 grain; 3 grain; and scored 5 grain tablets, in bottles of 100 and 1000.

Full information available on request.

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5. LOCATION OF THE HEADQUARTERS OR GENERAL BUSINESS OFFICES OF THE PUBLISHERS (Not printers): 1801 North Lamar Blvd., Austin, Texas 78701
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ADVERTISING & BUSINESS OFFICES: Texas Medical Association, 1801 North Lamar Blvd., Austin 78701; Telephone 512-477-6704.

PRINTING OFFICES: Texas Medicine, c/o Stafford-Lowdon Company, 1114 West Daggett, Fort Worth 76104.

Editorials

ALLERGY COMES OF AGE

Allergy is now a recognized specialty. The Board of Allergy and Immunology became an official portion of the AMA's medical specialties on June 19, 1971.

The first formal meeting of the TMA Section on Allergy was in May 1973. We are no longer the "bastard of medical specialties,"[1] since we now have legal parents—the TMA and the AMA. Now we children know who our parents are.

The gestation period of a pachyderm is about 24 months. On the other hand, how long did the labor pains of allergy continue? We can't use Hippocrates as a source, since his famous tree is a member of the ash family and a good source of tree pollen allergy. The clinical science of allergy was popularized in England in 1911 by Noon and Freeman,[2] and in the United States about 1917 by Cooke.[3] Although the British date it back to Blackley's 1873 discovery of pollen allergy,[4] clinical allergy really began with the discovery of allergenic extracts used for both diagnosis and therapy.

Allergy involves people and doctors who are interested in people; allergists are by nature clinicians. Severe atopy seldom involves animals other than man, and it cannot be duplicated in animals or even in nonatopic humans. It is no wonder that basic scientists addicted to the guinea pig and rabbit have viewed us with disdain.

The National Institute of Allergy and Infectious Diseases, even when it had a special pipeline to the treasury of the United States, recognized and supported only nine allergy institutions, and these only to a limited degree. These institutions were seldom patient or clinically oriented. Thus, the great bulk of private allergy patients have been treated in private practice by allergists, and by whatever methods and materials the allergist can secure by his own ingenuity. Reliable supplies, trained professional assistants, and even the transfer of information from one allergist to another have not been readily available.

How can we allergists (less than 100 in Texas) help ourselves to help our patients? I suggest (1) increased and more effective communication among ourselves; (2) biological standardization of extracts; (3) becoming involved in clinical research; and (4) disseminating knowledge to our patients and the public.

Increasing communications will be the easiest to accomplish since allergists discuss their clinical problems with each other. The Southwest Allergy Forum and the International Correspondence Letters give any allergist with a problem an opportunity to request information from his colleagues. Finally, the AMA has made available a Current Procedural Terminology (CPT) on allergy which will be used in peer review. Now we primitives have a language!

Why the big furor over extracts? We have been making them in our sinks since 1911, but they haven't improved any. We don't know what we are giving, the patient doesn't know what he is getting, and nobody knows the results. What a beautiful example of a triple-blind label study!

To confuse the issue further, along come the politicians. Through their influence, the FDA has taken over the Division of Biological Standards (DBS) and is determined to look into the present status of all biologicals for safety and effectiveness. I was a member of the Ad Hoc Committee on Pollen Extracts of the DBS which met in Bethesda, Md, on May 31, 1972. Apparently I was the only participant who had personal experience in collecting and processing pollen and in preparing and testing licensed extracts. Even the sources of the pollens, the methods of collection and preparation were not considered. I think that a pollen extract could be standardized only if the pollen is pure. If we are going to standardize anything, we must start at the beginning. (The four pollens to be used by the International Standardization Group were all field collected and there is no particular

standard of potency for any of them.)

The committee did pass the safety and efficacy of pollen extracts, considered the Protein Nitrogen Unit (PNU) a poor measure of atopic potency, encouraged lyophilization, and suggested that each manufacturer be required to certify the atopic activity of their pollen allergenic extracts by proven skin tests. While I felt that we did have a constructive session, never have I received so many vitriolic letters. It's a good way to lose friends.

As of February 1973, there is a new committee delving into biological products beginning with bacterial vaccines. Allergenic extracts will be considered. The committee is about half for and half against allergy; there is even a lawyer attached to it. The FDA and politicians will do as they please with the committee's report.

Regarding the Standardization of Allergenic Extracts: In any major allergen (examples are ragweed or housedust), there are a number of different antigens, only some of which are allergens. Examples of these antigens are antigen E in low ragweed, and mites in housedust. Since the measurement of antigen E involves animal antibodies, its relationship to atopic ragweed patients is open to question. There is no good laboratory evidence that the antigen-antibody mechanism in animals by atopen administration is identical to the atopic state. No in vitro immunological method of evaluating atopy has withstood the test of time.

Allergenic extracts can be tested only in atopic humans. Different patients sensitive to the same crude material display sensitivities to the various fractions. The biological activity measurement of the extract must be in terms of the atopic activity of the patient. The exact chemical structure is not necessary for measurement of biological activity. Must we wait for basic knowledge to standardize our allergy extracts?

For an allergist to become involved in clinical investigation is old hat. That's the fun of the game. The 1972 Nobel prize for medicine went for antibody structure. With one-half million new chemicals added to the environment in the past 20 years, there are plenty of new sensitizers to look for. Even the pollens are moving about. The Russians generously gave us their thistle. Some of the promising new tests which correlate with skin tests are the histamine release from leukocytes, the lymphocyte transformation test (LTT), the radioallergosorbent test (RAST), and for delayed reactions the migratory inhibition factor (MIF). Probably several new lymphokine tests will emerge. Tests can be more easily reproduced with radioactive measurements. Beta and gamma counters will be commonplace.

Possibly the day will arrive when a patient will have blood drawn and, a week later, the results and lyophilized extract will be made available to the referring physician. The lyophilized extracts will be diluted in the morning and thrown away in the afternoon. Better and standardized extracts and improved and exquisitely sensitive testing will provide new and more efficient tools for the allergist. Our practice will change for the better, but we will still need all our clinical arts.

Allergists have failed to get their message across to the general public. In my patient rooms, the allergy booklets gather dust while the comic books are ragged. The Allergy Foundation of America needs a larger budget.

What is the future of allergy practice? Federal law requires peer review. This will make Phase I, II, III, or IV controls look like a picnic. TMA has organized the Texas Medical Foundation as its advocate in economic affairs. Many changes are in store, some of which we won't like.

One thing is evident: Everyone wants to be a peer. My 1965 compilation of the Texas allergists' fees for testing and treatment showed no concordance. Having been tested by the Quality Assurance Board and having their scores, I can assure you there was no agreement on procedures in asthma between a radiologist and a psychiatrist. My request is that we hang together so that we don't hang separately.

I think, even so, that the future of allergy training and allergy patient care is bright. Many advances have been made. The dark spots of the cessation of drug evaluation and of governmental intervention are realities to consider thoughtfully. Allergy was born into a changing world. May its subsequent rearing and training be carefully handled so that the allergic patient receives better care.

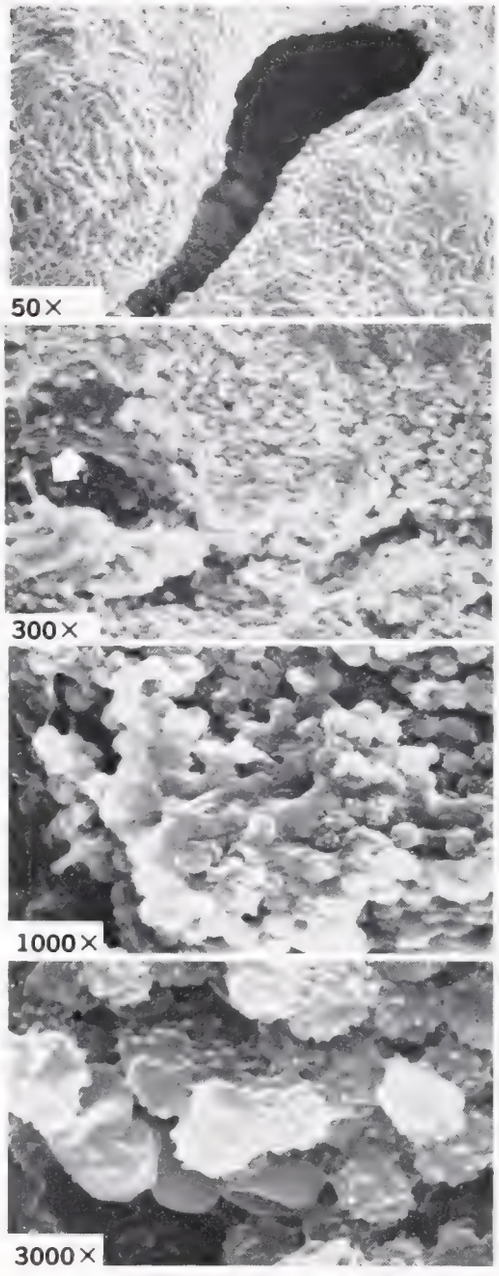
William C. Grater, MD, Dallas.

The author's reference list is available from TEXAS MEDICINE, 1801 N Lamar Blvd, Austin 78701.

Progress in Diagnosis

In these illustrations of tissue from a patient with acute cystitis, you can see the swollen and inflamed mucosa of the ureteral orifice (50×), a fibrin strand (300×), and a whitish exudate composed of polymorphonuclear leukocytes (1000× and 3000×). The photographs were taken with the scanning electron microscope (SEM) by Dr. Shirley Siew, Associate Professor of Pathology at the University of Pittsburgh School of Medicine. They come from the clinical exhibit "Scanning Electron Microscopy of Urinary Tract Infection," which won first prize in Clinical Research at the May 1972 meeting of the American Urological Association.

The scanning electron microscope promises to be extremely useful in its investigation of human pathology. In time, examination of tissue with the SEM is likely to play a significant role in the diagnosis of urinary tract infection.



A note on the photography:
These photographs were made by the scanning electron microscope, which, like the transmission electron microscope, operates on the basic principle of exposure of tissue to a beam of electrons in a vacuum. With the SEM, electrons bombard the surface of tissue which has been given a fine coating of gold. The electrons reflect off the tissue onto a television screen, and the resulting photograph shows a three-dimensional effect. The tissue sections need not be ultrathin, so there is a minimum of handling and distortion.

Just as much an instrument of progress and just as helpful in its way has been Gantrisin (sulfisoxazole) Roche, developed and introduced a generation ago. However, there's been no generation gap over its continuing usefulness. In fact, Gantrisin, with so many years of clinical experience behind it, is still one of the most valuable drugs we have for the treatment of nonobstructed cystitis, pyelitis or pyelonephritis due to susceptible organisms such as *E. coli*. Specifically, Gantrisin provides your patients with certain important therapeutic advantages:

References: **1.** Bran, J. L.; Karl, D. M., and Kaye, D.: *Clin. Pharmacol. Ther., 12*:525, 1971. **2.** Burke, E. C., and Stickler, G. B.: *Mayo Clin. Proc., 44*:318, 1969. **3.** Hibbard, L. T., in Bulger, M. J., *et al.: Patient Care, 1*:(3) 47, 1967. **4.** Holloway, W. J.; Furlong, J. H., and Scott, E. G.: *J. Urol., 102*:249, 1969. **5.** House, T. E., *et al.: Obstet. Gynecol., 34*:670, 1969. **6.** Lampe, W. T.: *J. Am. Geriatr. Soc., 16*:798, 1968. **7.** Moffat, N. A., and Wenzel, F. J.: *Curr. Ther. Res., 13*:286, 1971. **8.** Normand, I. C. S.: *Practitioner, 204*:91, 1970. **9.** Pryles, C. V.: *Med. Clin. North Am., 54*:1077, 1970. **10.** Seneca, H.; Peer, P., and Warren, B.: *J. Urol., 99*:337, 1968. **11.** Trafton, H. M., and Lind, H. E.: *J. Urol., 101*:392, 1969. **12.** Cohen, M.: *Pediatrics, 50*:271, 1972.

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Contraindications: Hypersensitivity to sulfonamides; infants less than 2 months of age; pregnancy at term and during the nursing period.

Warnings: Safety in pregnancy not established. Do not use for Group A beta-hemolytic streptococcal infections, as sequelae (rheumatic fever, glomerulonephritis) are not prevented. Deaths reported from hypersensitivity reactions, agranulocytosis, aplastic anemia and other blood dyscrasias. Sore throat, fever, pallor, purpura or jaundice may be early indications of serious blood disorders. CBC and urinalysis with careful microscopic

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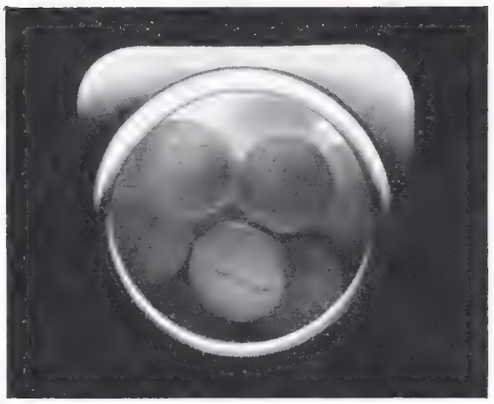

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Fee curbs are discriminatory

On Oct 16, the Health Industry Advisory Committee of the Cost of Living Council discussed the removal of mandatory price controls on physicians' fees. The AMA has proposed that these controls be removed and if this is done, the AMA will urge all physicians to control prices voluntarily.

Dr. Ernest B. Howard, Executive Vice-President of the AMA, represents the American physicians on the Health Industry Advisory Committee. When the majority of the committee appeared to advocate removing physicians' fee controls, the committee chairman would not allow a vote, stating that the function of the committee was purely advisory. It seems to me that for a committee to "advise," there must be consensus, and that this must be arrived at by majority vote. Actually, I believe this is another of the discriminatory practices perpetrated against the medical profession.

I hope there soon will be some relaxation of the controls so that much needed increases in fees can be legally accomplished.

By participating in the HIAC, Dr. Howard and the AMA have been able to prevent the suggestion that different percentage increase ceilings be determined for inpatient and outpatient prices. They led opposition to an increase which would not insure equitable treatment for all physicians. They argued successfully against a proposal for a fixed percentage price increase on each individual unit of service. Also, the cost justification provision has been eliminated because it tends to reduce the productivity of medical practice. The AMA opposed the creation of a regulatory fee-setting body which would monitor the program through another agency. It successfully opposed giving third party carriers the right to review all physician-patient transactions and to refuse payment to physicians when fees appeared to violate price controls.

Possibly the most socialistic suggestion was that of "income control." This was defeated because the ill effects on the quality of services delivered would destroy productivity and would totally restructure the medical care industry.

Each physician should continue efforts to let his Congressman know that medicine is being discriminated against. Let's remind Congress that we also are citizens of the United States and should receive the same treatment as other citizens.

Charles B. Dryden M.D.

Charles B. Dryden, MD, President, Texas Medical Association.

Dec 73

TexasMedicine

Rehabilitation of cardiac, stroke patients

Report on family practice residencies in Texas

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Precautions: In the elderly and debilitated, and in children over six, limit to smallest effective dosage (initially 10 mg or less per day) to preclude ataxia or oversedation, increasing gradually as needed and tolerated. Not recommended in children under six. Though generally not recommended, if combination therapy with other psychotropics seems indicated, carefully consider individual pharmacologic effects, particularly in use of potentiating drugs such as MAO inhibitors and phenothiazines. Observe usual precautions in presence of impaired renal or hepatic function. Paradoxical reactions (*e.g.*, excitement, stimulation and acute rage) have been reported in psychiatric patients and hyperactive aggressive children. Employ usual precautions in treatment of anxiety states with evidence of impending depression; suicidal tendencies may be present and protective measures necessary. Variable effects on blood coagulation have been reported very rarely in patients receiving the drug and oral anticoagulants; causal relationship has not been established clinically.

Adverse Reactions: Drowsiness, ataxia and confusion may occur, especially in the elderly and debilitated. These are reversible in most instances by proper dosage adjustment, but are also occasionally observed at the lower dosage ranges. In a few instances syncope has been reported. Also encountered are isolated instances of skin eruptions, edema, minor menstrual irregularities, nausea and constipation, extrapyramidal symptoms, increased and decreased libido—all infrequent and generally controlled with dosage reduction; changes in EEG patterns (low-voltage fast activity) may appear during and after treatment; blood dyscrasias (including agranulocytosis), jaundice and hepatic dysfunction have been reported occasionally, making periodic blood counts and liver function tests advisable during protracted therapy.

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Subscriptions: $3 per year for members; $6 for nonmembers; $8 for foreign; $5 for libraries, hospitals, and universities; $3 for medical students. Single copy: $1.

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ON THE COVER

Even though many stroke patients have impaired function of one side of the body, many of them can learn to take care of their own personal needs, and some can return to their former occupations. The articles beginning on pages 84 and 91 deal with rehabilitation of stroke patients.

NEXT MONTH

Articles for January will include alcohol and anesthesia for trauma; injuries peculiar to traffic accidents; preventing drug abuse in industry; Freud and cancer; keeping records for taxes; the computer in continuing medical education; and delivery of health care to domestic farm workers.

Also, the January issue of *Texas Medicine* will contain "The 1974 Texas Continuing Education Directory for Physicians," a 24-page section providing information on continuing education opportunities within the state throughout the year.

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Indications. For the treatment of ascariasis (roundworm infection) and enterobiasis (pinworm infection).

Warnings. *Usage in Pregnancy:* Reproduction studies have been performed in animals and there was no evidence of propensity for harm to the fetus. The relevance to the human is not known.

There is no experience in pregnant women who have received this drug.

Precautions. Minor transient elevations of SGOT have occurred in a small percentage of patients. Therefore, this drug should be used with caution in patients with pre-existing liver dysfunction.

Adverse Reactions. The most frequently encountered adverse reactions are related to the gastrointestinal system.

Gastrointestinal and hepatic reactions: anorexia, nausea, vomiting, gastralgia, abdominal cramps, diarrhea and tenesmus, transient elevation of SGOT.

CNS reactions: headache, dizziness, drowsiness, and insomnia. Skin reactions: rashes.

Dosage and Administration. *Children and Adults:* Antiminth Oral Suspension (50 mg. of pyrantel base/ml.) should be administered in a single dose of 11 mg. of pyrantel base per kg. of body weight (or 5 mg./lb.); maximum total dose 1 gram. This corresponds to a simplified dosage regimen of 1 cc. of Antiminth per 10 lb. of body weight. (One teaspoonful = 5 cc.)

Antiminth (pyrantel pamoate) Oral Suspension may be administered without regard to ingestion of food or time of day; and purging is not necessary prior to, during, or after therapy. It may be taken with milk or fruit juices. Because of limited data on repeated doses, no recommendations can be made.

How Supplied. Antiminth is available as a pleasant tasting caramel-flavored suspension which contains the equivalent of 50 mg. pyrantel base per ml., supplied in 60 cc. bottles.

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*Data on file at Roerig.

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NEWS

Texas delegation advances TMA policy positions at 1973 AMA Clinical Convention

Wage and price control, quality care for patients with renal disease, control of venereal disease, and proposed regulations for hospital pre-admission certification of Medicare patients were priority issues of the Texas delegation at the 1973 AMA Clinical Convention Dec 2-5 in Anaheim, Calif.

Responding to reports from the Board of Trustees and to resolutions from Texas and three other states, the AMA will continue to pursue the relief of physicians from discriminatory regulations under the Economic Stabilization Program. The AMA House of Delegates has asked the Board to use all available administrative resources and has authorized it to institute appropriate legal action when so advised. The AMA has retained legal counsel for advice on this problem.

The Texas resolution regarding the interim Social Security Administration guidelines to provide Medicare benefits for patients with chronic renal disease pointed out numerous provisions in the guidelines which are not in the best interest of quality care and which will adversely affect patients, physicians, and institutions with dialysis facilities. The House called for the AMA to protest the interim regulations, to request that they be rescinded and to enjoin the SSA for interfering with the practice of medicine through regulatory fiat. The AMA also will offer its advice in redrawing the regulations in several areas.

The Texas resolution, asking the AMA delegates to endorse the use of the condom as an effective use of prevention of VD, was referred to the AMA Council on Environmental, Occupational and Public Health. The AMA is continuing its program to control VD through public education, the development of effective case treatment and prompt reporting, and support of research to develop vaccines producing active immunity to VD.

The final Texas resolution pointed out that proposed regulations to require pre-admission certification of Medicare patients would create confusion of authority, duplication of effort, confusion of standards and criteria, wasteful use of physician and health professional time, and involvement of fiscal intermediaries at a level not intended by the new PSRO provisions of PL 92-603. The Texas

resolution was considered with a second resolution which asked the AMA to prevent the issuing of regulations by the Secretary of DHEW. The House voted to adopt that resolution from California, and referred the Texas resolution to the AMA Board of Trustees and the Council on Legislation.

TMA Conference on Legislation and Medical Service to consider issues and challenges of 1974

Issues and challenges facing physicians in 1974—HMOs, PSROs, political elections, national health insurance, and others—will highlight the program of the TMA Conference on Legislation and Medical Service, Jan 19 in Austin's Joe C. Thompson Conference Center.

Major speakers and topics for the day-long session include the Honorable Betty Andujar of Fort Worth, senator, 12th District, State of Texas, speaking on "Where We've Been and Where We're Going." Dr. Mouzon Biggs, Jr., (DD), associate pastor, First United Methodist Church, Houston, will discuss "A New Look at Greatness."

"Medical Issues in Congress in 1974" will be the topic of William J. Colley, JD, director, American Medical Association Congressional Relations Department, Washington, D.C. A presentation entitled "Front, Center, on Stage in 1974—National Health Insurance—What's Emerging?" will be given by Dr. Ernest B. Howard, AMA executive vice president, Chicago. AMA President-elect Dr. Malcolm C. Todd of Long Beach, Calif, will speak on medicine's top priorities. Congressman Bill Archer of Houston will discuss the Congress, 1974 elections and political activity.

Two panel sessions will consider various other problems of current interest to the medical profession. These sessions are entitled "Representing the Physicians of Texas," and "Issues, Challenges, Programs, and Policies." Question and answer periods will be conducted throughout the conference.

TMA will host a luncheon for conference participants and an evening hospitality hour and fellowship will be sponsored by The Medical Protective Company.

Also scheduled that weekend is the TMA Orientation Program and the winter meetings of the TMA boards, councils, and committees.

NEWS

Phase IV price guidelines allow 4% fee increase

The Cost of Living Council (COLC) has issued extensive Phase IV Price Guidelines regulating health care providers under the Economic Stabilization Program. The final regulations are to become effective Jan 1, 1974.

The proposed regulations, developed in conjunction with the Health Industry Advisory Council and an ad hoc committee on long-term care, set forth the following basic concepts.

Physicians will be permitted an annual aggregate fee increase of 4%. The new limit is higher than the 2.5% ceiling in effect since 1971 "in recognition of unavoidable increases in their cost of practice." No fee over $10 can be raised by more than 10% with a limit of $1 annual price increase for each service under $10. Allowable price increases may be accumulated from year to year.

In addition, no cost justification is required for a price increase. The physician's profit margin may not increase for one year after any price increase. No automatic cost pass throughs are allowed other than for increases in the cost of gold for dentists. A schedule of base and current prices must be available upon request, with notice of availability posted.

Factors considered in determining exceptions of severe hardship or gross inequities include practitioner's base prices or base period revenue margin not substantially representative of his current practice, declining profit margin due to government mandated cost increases, increases to low wage employees, cost increases related to substantial and significant improvement in the quality of service, and natural catastrophes.

The AMA had presented detailed statistical evidence to the COLC that the 2.5% limit was not fair to physicians in light of the rapid rise in all other sectors of the economy. In a statement the AMA welcomed the provisions for voluntary compliance and the 4% increase. However, the AMA continues to support a course of total decontrol and will persist in its efforts to secure government acceptance of that course.

TMA informs public of policy statement on HMOs

In an effort to communicate its actions more fully to the public, TMA recently sent a news release to all Texas daily and weekly newspapers, radio and television stations, county medical societies and selected national medical publications explaining the official policy action taken by the House of Delegates Nov 4 regarding the endorsement and support of multiple methods of health care delivery.

In addition, TMA President Dr. Charles B. Dryden, in a letter to Texas Lt Gov Bill Hobby, described TMA's position on systems of prepaid health care. The statement was in response to comments issued by the Lt Gov in a news release Nov 3 on the merits of the Health Maintenance Organization (HMO) concept and the controversy over HMO control.

In view of the increased interest, the House of Delegates went on record at its November session as supporting prepaid health care delivery systems which 1) follow the principles of medical ethics, 2) prohibit the corporate practice of medicine, 3) place absolute control of the practice of medicine in the hands of an individual, group or nonprofit corporation authorized under the law with all the members holding a license to practice medicine in Texas, and 4) is in compliance with all provisions of present Texas laws as contained in the Medical Practice Act, with appropriate regulatory controls to safeguard the patient, doctor and participating entities. However, the House emphasized that it would be "intellec-

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NEWS

tually dishonest" to hail HMOs as the solution to all medical problems to the exclusion of all other systems.

The Lt Gov specifically referred to the soaring costs of medical care. Dr. Dryden pointed out that while the US Bureau of Census and US Bureau of Labor Statistics figures show that from 1960 to 1971 the increase in all medical costs were 62%, at the same time there was an increase of 83% in the median family income.

Dr. Dryden said that from 1967 to 1970 physicians' fees rose 12%, the same percentage which non-physicians' wages were increased. He said it should also be understood that from 1971 through the end of this year physicians' fees have been frozen with a 2.5% increase per year over 1971 fees allowed only recently. This figure is far below that of other professional business and labor raises.

He also stated that the Consumer Price Index reported that from 1967 to 1970, the average price of a semi-private hospital room rose 45.4%.

In view of these factors, Dr. Dryden said it was "grossly unfair to lay exaggeration on rising cost of health care at the feet of physicians."

In response to a reference by the Lt Gov that a bill authorizing HMOs in Texas was defeated in the last legislative session, Dr. Dryden pointed out that there was never any floor vote on various HMO proposals by either house.

Dr. Dryden cited several key issues which he said must be resolved in relation to HMOs. Among these are the determination of whether physicians are really more productive in a large group setting; whether this form of health delivery affects the quality of care; and whether the HMO will really "guarantee" or even improve the access to health care.

Dr. Dryden also called attention to the fact that there is presently a sizable HMO in San Antonio. It was begun by the Bexar County Medical Foundation with the assistance of the Bexar County Medical Society.

Dr. Dryden said that the action taken by the House of Delegates Nov 4 put into perspective in positive terms the thinking of the physicians of Texas who belong to TMA.

In answer to the proposition of lay control over the practice of medicine, Dr. Dryden emphasized, "We will not compromise our position . . . that the delivery of medical care must be under the guidance and direction, and remain the responsibility of licensed physicians."

TMF submits proposal to provide Medicaid review

The Texas Medical Foundation has submitted a proposal to the Texas Department of Public Welfare for the establishment of the Texas Admissions and Review Program, which will provide the Texas Medicaid program with an effective means of insuring highest quality patient care while providing the Department of Public Welfare with an effective means of program cost control.

The proposed program embodies concurrent review of Medicaid hospital cases. The proposal calls for the use of medically trained Texas Medical Foundation staff members, working in conjunction with hospitals' medical staffs, to assure appropriate patient care through the application of professionally developed standards of quality. The Texas Medical Foundation feels that it is only through this concurrent review process that the quality assessment can take proper account of the variability of diseases and their associated treatment patterns while still providing the means for cost control.

The proposal is the culmination of an extensive planning effort which was begun by TMA with the support and concurrence of the Texas Hospital Association.

The awareness on the part of the medical community of the advantages of

utilization review, and the recognition of the proven benefits to all concerned parties of concurrent, as opposed to retrospective, review led to statewide support of the Texas Admissions and Review Program.

Dr. Joseph T. Painter, president of the Texas Medical Foundation, emphasized in his presentation of the proposal the partnership and common goals of the patient, the Department of Public Welfare, and the medical care provider in providing the highest quality medical services while maintaining the fiscal integrity of the Medicaid program. Dr. Painter said the patient is assured appropriate treatment, while the state does not incur fiscal responsibility for cases which violate established standards.

Baylor grant designed to help Mexican-Americans

The recently issued annual report of The Commonwealth Fund, a philanthropic foundation, includes a report on a $6 million grant to the Department of Community Medicine at Baylor College of Medicine for a program aimed toward removing the obstacles that prevent Mexican-Americans from obtaining comprehensive health care. Dr. Carlos Vallbona is in charge of the program.

The report listed the Department's achievements as including a sharp increase in the enrollment of Mexican-American medical students at Baylor, establishment of a comprehensive care clinic in the predominantly Mexican-American section of Houston, teaching of Spanish in the core curriculum of the Department, a rotation at the clinic for the Department's students, and the initiation of education and clinical backup programs for physicians who serve Mexican-Americans in the rural areas of the Rio Grande Valley and the inner-city areas of Houston.

CAPCO to test Delphi method

A group of opinion leaders in the ten-county Capital Area Planning Council (CAPCO) will be asked to predict the future of health care delivery in the area for the next five to ten years using the Delphi method, a scientific technique reportedly not tested previously in the health care field.

The Delphi method will be used as an auxiliary to the actual planning procedure, and the CAPCO policy committee will follow its conventional method to devise the regional plan using information gained through the Delphi study.

The Delphi technique employs a panel of experts, each offering his written opinions on matters under study. In this case, the technique will be used to seek a consensus from leaders in the CAPCO area on health needs that are currently not being met, priorities that are associated with these needs and the potential for fulfilling them.

The project, a cooperative effort of CAPCO and the Regional Medical Program of Texas, has two purposes. It will provide CAPCO with information for its health planning functions, and it will test the usefulness of the Delphi method in the health care delivery system.

"Don't get mad at me. It was the computer that said you have hog cholera."

NEWS

Speakers, Curbstone topics selected for Annual Session

Approximately 40 guest speakers from more than 20 states have been secured to date for the 1974 Annual Session in Houston, May 9-12. In addition, 20 topics have been selected for the popular Curbstone Consultations program.

A wide range of medically related topics will be presented by an equally varied group of medical authorities. Among these are Drs. Buris R. Boshell, medical director, Diabetes Research and Education Hospital, University of Alabama Medical Center; C. Harmon Brown, medical director, Student Health Services, California State University, Hayward; George E. Burch, professor and chairman, Department of Medicine, Tulane University School of Medicine; Herschel E. Griffin, dean, Graduate School of Public Health, University of Pittsburgh; Herbert F. Polesky, director, Minneapolis War Memorial Blood Bank; F. P. Rhoades, chairman of the board, American Geriatrics Society, Inc.; Russell B. Roth, president, American Medical Association; F. Blair Simmons, professor and head, Division of Otolaryngology, Stanford University School of Medicine; Kevin M. McIntyre, assistant professor of medicine, Harvard Medical School and assistant chief, Cardiology Section, Veterans Administration Hospital, West Roxbury, Mass; and many others.

In addition to many distinguished physicians, speakers also represent various other fields of interests. These include Jack Douglas, editor, Fort Worth Evening Star-Telegram; Art Friedman, education consultant and western regional manager, NCAA films; Jacki Sorensen, Aerobic Dancing, Inc., Clinic Staff, The President's Council on Physical Fitness and Sports; Paul Uram, coach, Pittsburgh Steelers.

Once again also, the Curbstone Consultations will be held during Annual Session. This program provides a forum for informal discussion of subjects concerned with the broad aspects of medicine.

Twenty subjects have been selected, ten of which will be presented simultaneously on Friday and Saturday evenings.

Topics for Friday include: Concepts of Modern Day Blood Transfusion; Bone Scanning in the Work-up of the Cancer Patient; Lumpectomy—Simple Mastectomy Versus Radical Mastectomy of Cancer of the Breast; Chronic Diarrhea of Infancy and Childhood; Snakebites in Texas; The Globe Trotter—The Diseases He Encounters and Prevention; Treatment of Skin Cancers; Current Status of the Coronary Artery Bypass; What Are the Indications for Surgery in Hiatus Hernia?; and Vitamin E.

Saturday topics are: Interpretation of Arterial Blood Gases; Fetal Monitoring and Its Effect on the Primary Caesarean Section Rate, Fetal Salvage and Fetal Damage; Infant and Childhood Feeding—The Pediatrician's Role in Prevention of Atherosclerosis; Management of Retained Common Bile Duct Stones; Management of Psychiatric Emergencies; Evaluation of Shoulder Pain; Clinical Applications of Pulmonary Function Studies; Newer Aspects of Cardiopulmonary Monitoring; Ventilatory Assistance and Airway Care; Current Status of the Australian Antigen and Various Forms of Hepatitis.

Physicians are reminded that Jan 1 is the deadline for scientific exhibit applications for the 1974 Annual Session.

PSRO legislation approaches final congressional action

HR 3153 (PSRO bill) was reported out of the Senate Finance Committee Nov 20 with the Bentsen amendment intact and with two additional amendments placed on the bill by Sen Wallace Bennett (R-Utah).

The Bentsen amendment, authored by Sen Lloyd Bentsen (D-Tex), pro-

vides that a Professional Standards Review Organization can be designated for an area encompassing a whole state and that no PSRO designation can be denied solely on the number of physicians participating in the organization.

One of the Bennett amendments would give priority to local areas and local organizations in the execution of PSRO contracts. The other amendment would require that every state have a PSRO Review Council as provided in Public Law 92-603. Previously, only states with three or more PSROs were to have Councils. Under the amendment, states with one PSRO would have a Council consisting of four physicians elected from the general membership of PSRO, two physicians designated by the state and local hospital association, and four public representatives. States with two PSROs would have two representatives designated by each PSRO, two physicians designated by the state medical society, two physicians designated by the state hospital association and four public representatives.

It is expected that the final version of the bill will be presented by the Joint Conference Committee of the House and the Senate to the President sometime in December.

Congressman Dale Milford of Dallas has introduced in the House of Representatives a bill relating to statewide PSROs with the exact wording as contained in Sen Bentsen's amendment.

AMA supports opium release

The American Medical Association has expressed its support of HR 9429 for the release of opium from the national stockpile.

An AMA statement sent to Representative Charles E. Bennett (D-Fla), chairman of the House subcommittee studying the bill, urged passage of HR 9429 as a measure to relieve an urgent need pending a more permanent solution.

The AMA reported estimates for 1973 of a worldwide deficit of 300 tons of opium. It further stated that synthetic compounds which have been developed are not adequate substitutes in certain medical indications and cannot meet the need.

Survey shows 170 million insured

According to the 27th Annual Survey of the Health Insurance Council some 170 million persons under age 65 in the United States have private health insurance.

The survey showed that as 1973 began, about nine out of ten persons of the US civilian resident population in the under 65 age group were insured—two million more than the preceding year.

The number of persons under age 65 with surgical expense insurance was almost 157 million at the start of this year, two million more than were insured a year earlier.

The Council's survey was based on data from insurance companies, government agencies and Blue Cross, Blue Shield and medical society plans.

In addition, for the under 65 population, there was an increase of more than a million persons covered for non-surgical medical expense, for a total of 134.5 million. There was a similar increase in persons covered by major medical expense policies for a total of more than 77.5 million.

In other lines of coverage, the survey showed 8.9 million persons covered by dental insurance policies, over 61 million workers had short term disability income insurance, or some other type of paid sick leave coverage, and over 12.5 million persons had long-term disability insurance for periods beyond two years up to age 65 or even for life.

The survey indicated that almost 21 million persons were protected by more than one type of insurer.

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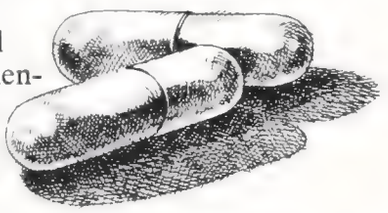

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Warnings: Caution patients about possible combined effects with alcohol and other CNS depressants. As with all CNS-acting drugs, caution patients against hazardous occupations requiring complete mental alertness (*e.g.*, operating machinery, driving). Though physical and psychological dependence have rarely been reported on recommended doses, use caution in administering Librium (chlordiazepoxide hydrochloride) to known addiction-prone individuals or those who might increase dosage; withdrawal symptoms (including convulsions), following discontinuation of the drug and similar to those seen with barbiturates, have been reported. Use of any drug in pregnancy, lactation, or in women of childbearing age requires that its potential benefits be weighed against its possible hazards. As with all anticholinergic drugs, an inhibiting effect on lactation may occur.

Precautions: In elderly and debilitated, limit dosage to smallest effective amount to preclude development of ataxia, oversedation or confusion (not more than two capsules per day initially; increase gradually as needed and tolerated). Though generally not recommended, if combination therapy with other psychotropics seems indicated, carefully consider individual pharmacologic effects, particularly in use of potentiating drugs such as MAO inhibitors and phenothiazines. Observe usual precautions in presence of impaired renal or hepatic function. Paradoxical reactions (*e.g.*, excitement, stimulation and acute rage) have been reported in psychiatric patients. Employ usual precautions in treatment of anxiety states with evidence of impending depression; suicidal tendencies may be present and protective measures necessary. Variable effects on blood coagulation have been reported very rarely in patients receiving the drug and oral anticoagulants; causal relationship has not been established clinically.

Adverse Reactions: No side effects or manifestations not seen with either compound alone have been reported with Librax. When chlordiazepoxide hydrochloride is used alone, drowsiness, ataxia and confusion may occur, especially in the elderly and debilitated. These are reversible in most instances by proper dosage adjustment, but are also occasionally observed at the lower dosage ranges. In a few instances syncope has been reported. Also encountered are isolated instances of skin eruptions, edema, minor menstrual irregularities, nausea and constipation, extrapyramidal symptoms, increased and decreased libido—all infrequent and generally controlled with dosage reduction; changes in EEG patterns (low-voltage fast activity) may appear during and after treatment; blood dyscrasias (including agranulocytosis), jaundice and hepatic dysfunction have been reported occasionally with chlordiazepoxide hydrochloride, making periodic blood counts and liver function tests advisable during protracted therapy. Adverse effects reported with Librax are typical of anticholinergic agents, *i.e.*, dryness of mouth, blurring of vision, urinary hesitancy and constipation. Constipation has occurred most often when Librax therapy is combined with other spasmolytics and/or low residue diets.

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NEWS

JCAH publishes studies on stroke, kidney disease

The Joint Commission on Accreditation of Hospitals (JCAH) has announced the release, in printed form, of the results of two year-long studies which classify hospital-based capabilities to provide various levels of care for patients with kidney disease or stroke.

The studies, contracted for by the Department of Health, Education and Welfare, were undertaken by the Joint Commission's Listing Program for Specialized Clinical Services.

Dr. John D. Porterfield, director of the Joint Commission, said, "The reason we are publicizing the availability of these studies is so that professionals who perform in these areas of concern will take this opportunity to review the data. This will permit their opinions and comments to be considered now, prior to final approval and adoption of the criteria by JCAH."

Study one, "Optimal Criteria for End-Stage Kidney Disease Care," classifies the entities of care by procedure: 1) kidney transplantation and dialysis, and 2) dialysis only.

Study two, "Optimal Criteria for the Care of Patients with Stroke," classifies the entities of care by descriptive category: 1) regional stroke centers of care, 2) comprehensive specialized services, 3) selected advanced specialized services, and 4) basic limited specialized services.

The released studies comprise part of the original HEW contract. The other portion concerns identifying and classifying the various hospital-based levels of care for heart and cancer patients. It is hoped that the results of the heart and cancer portion will be published before the end of the year. Comments and opinions will also be sought for those studies.

Copies of the kidney and stroke studies are available at no charge from Dr. John D. Porterfield, Director, JCAH, 875 N Michigan Ave, Chicago, Ill 60611.

Texas Medicare claims— 70% assigned

Seventy percent of the total claims submitted in Texas for payment by Medicare are assigned claims, according to claims processing data tabulated from reports submitted to the Social Security Administration (SSA) by carriers participating in the Medicare program.

The figures are based on claims submitted during the fiscal year ending July 1, 1972.

Nationally, more than 60% of the total claims are assigned claims. Percentages by states range from only 35.3% in Arizona and 35.4% in Montana to more than 80% in Mississippi and Massachusetts.

Doctors who treat Medicare beneficiaries may accept claims for reimbursement on assignment and be paid by SSA, or they may refuse to accept assignment and collect directly from the Medicare beneficiary.

TPA-TMA discuss doctor-pharmacist relations

Proper labeling and control of sample medication and the reduction of forged prescriptions were among the topics discussed by the annual meeting of the Texas Pharmaceutical Association's Board of Councilors and the TMA Subcommittee on Pharmacy.

The purpose of the meeting is to discuss areas of mutual interest to physician-pharmacist relations.

In response to a discussion involving the difficulties encountered by pharmacists through the random dispensing of samples by physicians, the TMA subcommittee reiterated its support for its previously adopted position concerning this area. This statement proposes that each physician should adopt a procedure within his office for disposal of drug samples. The procedure for legend drugs should be as follows: each sample dispensed must, by law, have on the label, 1) the physician's name, 2)

the patient's name, 3) directions for dosage, and 4) the date.

The joint committee also discussed ways in which the two professional associations could keep down the number of stolen prescriptions. The group reviewed suggested precautions. Physicians were urged to carefully control their prescription blanks to prevent thefts and subsequent forged or fraudulent prescriptions. Pharmacists were advised, where a patron is unknown to them, to either contact the prescribing physician for confirmation of the prescription, or have positive identification of the person offering the prescription. TMA officials were not in favor of requiring serially numbered prescription blanks, feeling this would only encourage theft of the pads, and also might endanger the position of the physician in the event of theft.

AMA announces membership incentives

Membership incentive programs for state and county medical societies become effective Jan 1 according to an announcement by the AMA's Department of Membership Development.

The state society incentive program will pay the standard 1% refund to state societies for dues collected plus one-half of 1% above the prime bank interest rate for all AMA dues collected and received at AMA from Jan 1 through March 31. Interest will be paid through April 30.

After April 1, the penalty provision of the program becomes effective. States that do not transmit dues by April 1 will not qualify for the incentive plan and the standard payment will be reduced by one-quarter in April, by one-half in May, by three-quarters in June and so forth. Societies collecting dues before Jan 1 may submit the names of AMA members without dollars for certification. As of Jan 1, both dollars and names must be received by AMA to qualify for the incentive program.

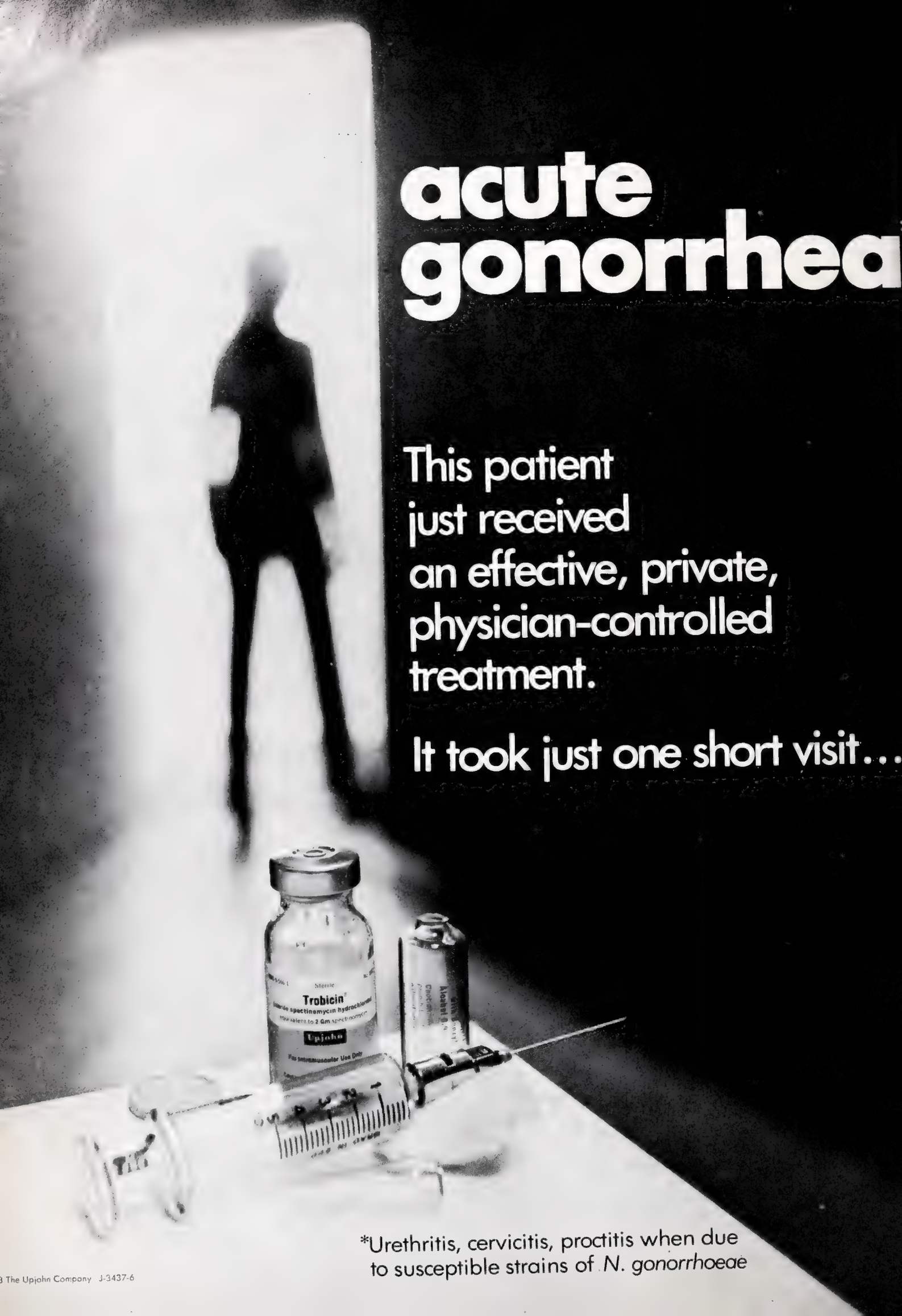
County societies enrolling new AMA members will receive half of the dues dollars for that year. If a new AMA member—or a former AMA member whose membership had been terminated for 24 consecutive months or more—is enrolled for $110, $55 dollars will be refunded to the county society. For AMA intern and resident members, the county society will receive half of the $20 dues; for AMA student members, the county society will receive half of the $15 dues. In the case of regular AMA members enrolled after Aug 15, the county society will receive half of the $55 six-month dues. County societies are urged by the AMA to establish a permanent committee on membership and to solicit memberships via personally signed letters or telephone calls with appropriate follow-up.

"We no longer kill fungus; we recycle it into penicillin."

Medical school bequest made through AMA-ERF

A gift of $16,341.84 has been received by The University of Texas Medical School at San Antonio through the American Medical Association Education Research Foundation (AMA-ERF).

The money represents a bequest made by the late Mrs. Jimmie K.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Trobicin—The advantage of injectable therapy.
Once Trobicin is injected, treatment is usually complete; there can be no problems with patients sharing, skimping, skipping or forgetting medication.

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There are no prescriptions to fill, no capsules to take. Neither family, friends nor co-workers need know or suspect the patient's problem.

Trobicin—Indication and dosage.
Spectinomycin is indicated only for use in acute urethritis and proctitis in the male and acute cervicitis and/or proctitis in the female when due to susceptible strains of *N. gonorrhoeae*. The usual dosage for Trobicin in adult males is 2 grams intramuscularly†; 4 grams intramuscularly in females.

Trobicin—Not effective for syphilis.
Trobicin is not effective for any stage of syphilis. Trobicin may mask or delay the symptoms of incubating syphilis. If concurrent syphilis is suspected, follow the patient serologically for at least 3 months. Patients with syphilis should receive adequate specific anti-syphilitic therapy with an appropriate antibiotic.
Trobicin is contraindicated in patients previously found hypersensitive to it.

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...and Trobicin®

2 gm and 4 gm vials

sterile spectinomycin hydrochloride

Sterile Trobicin
Sterile Trobicin (spectinomycin hydrochloride) —For Intramuscular Injection:
2 gm vials containing 5 ml when reconstituted with diluent.
4 gm vials containing 10 ml when reconstituted with diluent.
An aminocyclitol antibiotic active *in vitro* against most strains of *Neisseria gonorrhoeae* (MIC 7.5 to 20 mcg/ml). Definitive *in vitro* studies have shown no cross resistance of *N. gonorrhoeae* between spectinomycin and penicillin.

Indications: Acute gonorrheal urethritis and proctitis in the male and acute gonorrheal cervicitis and proctitis in the female when due to susceptible strains of *N. gonorrhoeae*.

Contraindications: Contraindicated in patients previously found hypersensitive to spectinomycin.

Warnings: Not indicated for the treatment of syphilis. Antibiotics used to treat gonorrhea may mask or delay the symptoms of incubating syphilis. Patients should be carefully examined and monthly serological follow-up for at least 3 months should be instituted if the diagnosis of syphilis is suspected.
Safety for use in infants, children and pregnant women has not been established.

Precautions: The usual precautions should be observed with atopic individuals.
Clinical effectiveness should be monitored to detect evidence of development of resistance by *N. gonorrhoeae*.

Adverse reactions: The following reactions were observed during the single-dose clinical trials: soreness at the injection site, urticaria, dizziness, nausea, chills, fever and insomnia.
During multiple-dose subchronic tolerance studies in normal human volunteers, the following were noted: a decrease in hemoglobin, hematocrit and creatinine clearance; elevation of alkaline phosphatase, BUN and SGPT. In single- and multiple-dose studies in normal volunteers, a reduction in urine output was noted. Extensive renal function studies demonstrated no consistent changes indicative of renal toxicity.

Dosage and administration: Keep at 25° C and use within 24 hours after reconstitution with diluent.

Male—Inject 5 ml intramuscularly for a 2 gram dose. Patients with gonorrheal proctitis and patients being re-treated after failure of previous antibiotic therapy should receive 4 grams (10 ml). In geographic areas where antibiotic resistance is known to be prevalent, initial treatment with 4 grams (10 ml) intramuscularly is preferred.

Female—Inject 10 ml intramuscularly for a 4 gram dose.

How supplied: *Vials, 2 and 4 grams—with ampoule of Bacteriostatic Water for Injection with Benzyl Alcohol 0.9% w/v.* Reconstitution yields 5 and 10 ml respectively with a concentration of 400 mg spectinomycin per ml (as the hydrochloride). For intramuscular use only.
Susceptibility Powder—for testing *in vitro* susceptibility of *N. gonorrhoeae*.
Caution: Federal law prohibits dispensing without prescription.
For additional product information see your Upjohn representative or consult the package insert.

Upjohn MED B-5-S (MBR-1)
The Upjohn Company, Kalamazoo, Michigan 49001

† For patients with gonorrheal proctitis and for patients in geographic areas where antibiotic resistance is known to be prevalent, initial treatment with 4 grams is preferred.

NEWS

Cooper, for many years a medical secretary to a San Antonio physician. In her will, Mrs. Cooper stipulated that her entire estate, after certain bequests to friends, be given to the medical school through AMA-ERF. She left no surviving family members.

Mrs. Cooper's bequest was the largest single contribution to the fund ever made in Texas.

Allergies cause lost school days

Dr. John P. McGovern, told a recent meeting of the American School Health Association that millions of school days are lost by children who suffer from allergy diseases.

The Houston allergist said that in one national survey, asthma alone accounted for more than 7.5 million days lost, and hay fever, usually with perennial allergic rhinitis, along with other allergies, accounted for another 1.5 million days.

Dr. McGovern told the school health educators that an estimated 1,600,000 children in the United States through 16 years of age have asthma.

Dr. McGovern, who is professor and chairman of the history of medicine and allergy at the University of Texas Graduate School of Biomedical Sciences and clinical professor of pediatrics (allergy) and microbiology at Baylor College of Medicine in Houston, said that allergic disease represents a major health problem among young people.

He urged a closer tie-in with the whole school health team in treating allergic diseases. He defined the health team as interacting individuals such as teachers, school nurses, health counselors, physicians, parents and patients, with overall guidance in each case by the child's primary physician.

"To insure that health problems of the whole child are properly interpreted and effectively managed within the school setting," Dr. McGovern added, "open lines of communication must exist between his private physician, parents, and the school health team, for asthma and other allergic diseases are classical examples of the need for a multifaceted regimen."

Phototherapy warning

The Texas State Department of Health has issued a warning regarding the possibility of injury to the infant exposed to fluorescent light phototherapy for hyperbilirubinemia.

According to the Bureau of Radiologic Health, a study of erythema on the skin of two infants exposed to fluorescent light phototherapy disclosed ultraviolet exposure levels consistent with the clinical erythema.

The Department of Health listed the following precautions recommended by the Food and Drug Administration in the treatment of hyperbilirubinemia by phototherapy.

1. Shield fluorescent lamps with ultraviolet absorbing filter materials made from selected plastics or ultraviolet absorbing glass. If such filtering materials are not presently between the infant and the fluorescent source, they should be installed immediately.
2. The eyes of newborn infants should be protected from the intense visible light from any phototherapy source by means of a suitable opaque blindfold. A simple bandage has been reported to be effective.

Nursing homes classified according to care

Texas now has 77,811 licensed nursing home beds in 929 homes across the state according to figures compiled by the Texas State Department of Health.

For the purposes of the State Welfare Department and the federal Medicare and Medicaid programs, the State Health Department's Nursing and

Convalescent Homes Division is responsible for state licensing and surveying for compliance with standards to qualify for participation in the state and federal assistance programs.

Each nursing home is classified according to the care it has available. There are 17,140 beds in Texas nursing homes that provide "skilled nursing care." To qualify for this ranking, a home must have an RN as its director of nursing and have LVNs on duty at all shifts. The homes rated Intermediate Care Facilities (ICF) III must have an LVN as its director of nursing with LVNs on duty during the daytime and evening shifts. There are 50,338 beds in this category in Texas.

ICF II-rated nursing homes are not required to have licensed nurses on duty. Charge attendants are trained to work with the elderly in these institutions. There are 5,790 ICF II beds in Texas. Another group of nursing homes with 4,543 beds does not participate in the welfare rating system but each is licensed by the state.

TV health series designed for adults

A new prime time TV series on health designed for an adult audience is being developed by the Children's Television Workshop, creators of "Sesame Street," and will premiere on the nation's 240 public broadcasting stations beginning in the fall of 1974.

A total of 26 original, hour-long programs will be created for the series' first experimental season, providing practical health information in an entertaining and instructional form.

Special community level followup projects and nationwide distribution of program-related printed materials will supplement the weekly video message.

Budgeted through its first season at $7 million for research, development and production, the health series will employ a variety of proven entertainment techniques, ranging from music and dance to drama and documentary, in presenting its information material. A primary target audience of the program will be the young parents who play major roles in the general health and nutritional well-being of their immediate families.

Survey reveals salaries of physician's assistant

Two members of the University of North Carolina economics department have researched the salaries of recent graduates of 18 physician's assistant programs.

Survey results showed that radiology is the best paid physician's assistant specialty with an average salary after two years of experience at over $18,000. Over the same time period, average physician assistant salaries in general medicine and pediatrics rise to over $13,000 with surgery and cardiology assistants at about the $12,500 level.

Response rate to the questionnaires was 55% of 273 graduates. Some 40% of the respondents were in general medicine, 11% in surgery, 10% in pediatrics, 6% in cardiology, while only 4% of the replies came from assistants to anesthesiologists.

"What a nice touch of nostalgia. He diagnosed lumbago."

NEWS

Health department reports on human plague case

The Texas State Department of Health reports that a case of human plague, the second to be reported in the United States this year, was confirmed in a Lincoln, New Mexico man who became ill while traveling though Brownfield, Texas.

According to Department of Health officials, the patient, a 64-year-old male, had an onset of fever, nausea, generalized weakness and lower extremity cramps early in June while en route from Dallas to his home. He was subsequently admitted to the Brownfield General Hospital.

An organism isolated from blood cultures was eventually identified as *Yersinia pestis*. The patient recovered following antibiotic therapy.

The Department of Health said that it is likely that exposure occurred at the man's Lincoln home prior to beginning his trip to Texas. He admitted having handled several mice that he had trapped in his rural home. *Yersinia pestis* has been recovered from wild rodents of most New Mexico counties, including Lincoln County, in years past.

The case was officially reported as a New Mexico case.

Occasional outbreaks of sylvatic plague, for the most part affecting prairie dog colonies, have been confirmed in Panhandle and Permian Basin counties of Texas in recent years.

Primary physicians to monitor lab tests

A program enabling primary care physicians to monitor the proficiency and accuracy of their laboratory tests has been announced for 1974 by the American Society of Internal Medicine.

The Medical Laboratory Evaluation program (MLE) is designed and supervised by practicing physicians and offers a variety of program options to accommodate physicians' individual needs, regardless of the extent of laboratory testing.

MLE participants will have the opportunity to select specific test panels that most closely match their laboratory work. Advance notice will be given in regard to sample arrival dates and subscribers will receive clear and prompt reports showing how their results compare to those of their colleagues and reference laboratories.

In addition, the MLE program includes a regular bulletin on practical laboratory management, analysis of problems and suggestions for corrective action.

UNIT VALUES FOR TMA MEMBERS RETIREMENT PLAN AND TRUST

(As a service to participants in the TMA Members Retirement Plan and to physicians interested in enrolling in the program, comparative values for investments are listed. Figures shown are the latest available at press deadline and are for comparison purposes only. Most daily newspapers list up-to-the-minute values on mutual funds.)

Investment media	Original price 9-30-68	Net asset value per share 10-31-73	Net asset value per share 10-31-73[1]
Mercantile National Bank Stock Fund	$10.25	$11.25	$11.25
Loomis-Sayles Capital Development Fund	14.20	13.90	15.54
T. Rowe Price Growth Stock Fund[2]	25.93	13.92	15.59
Loomis-Sayles Mutual Fund	16.82	15.08	18.32
Stein Roe & Farnham Balanced Fund	23.34	21.92	25.38
Mercantile Bank Fixed Income Fund	10.00	11.70	11.70

[1]Adjusted to include dividends and distributions since 9-30-68.

[2]Stock split two for one, May, 1973.

CAPITAL COMMENTS

Editor's note: This new *Texas Medicine* column, appearing for the second time, is prepared by the TMA Office of General Counsel to highlight items of current interest to physicians relating to health matters in the US Congress, federal agencies, state legislature and Texas administrative agencies.

STATUS OF SELECTED FEDERAL LEGISLATION RELATING TO MEDICINE:

HR 4200 — Retirement Income Security for Employers Act (relates to regulation and administration of private pension funds and modifies the tax treatment of retirement contributions including professional service corporations. Increases allowable Keogh Plan deductions.) *Status:* House passed 6/27/73, Senate passed 9/19/73, in conference.

HR 7274 by Rogers — The Public Health Act of 1973 (calls for restructuring of the Public Health Service Act; contains proposals for medical library assistance and health services and research development.) *Status:* Before House Subcommittee on Public Health and Environment.

HR 7724 by Rogers — The National Biomedical Research Fellowship, Traineeship, and Training Act of 1973 (establishes a program of health research fellowship through NIH) *Status:* House passed 5/31/73, Senate passed 9/11/73, with substitute language.

HR 8877 (Labor — HEW appropriations for fiscal 1974: 31.5 billion for HEW) *Status:* Before Conference Committee.

HR 9341 by Rogers (The Public and Allied Health Personnel Act of 1973, which extends Federal support to public and allied health training programs). *Status:* Before House Subcommittee on Public Health and Environment.

HR 9456 by Meeds (extends the Drug Abuse Education Act of 1970 for three years) *Status:* Reported by House Education and Labor Committee.

HR 9984 by Rogers (Medical Device Amendments of 1973 which establishes a program for the classification, evaluation and testing of medical devices). *Status:* Hearings being held before House Subcommittee on Public Health and Environment.

HR 10403 by Rogers (The Protection of Human Subjects Act, which establishes an 11 member commission to review the legal, moral and ethical problems of human experimentation) *Status:* Hearings before the Subcommittee on Public Health and Environment.

S14 by Kennedy (Health Maintenance Organization and Resources Development Act of 1973, which provides 805 million in federal aid for development, establishment, and operation of HMO's). HR 7974 by Rogers and Roy is House version of HMO bill. *Status:* Each bill passed respective house and now in Conference Committee.

S607 by Kennedy (To extend programs to eliminate hazards of childhood poisoning caused by lead based paints) *Status:* Awaiting Presidential action.

S723 by Beall (The National Institute of Health Care Delivery Act, which establishes institute for research and development regarding the organization and delivery of health care) *Status:* Senate passed 5/15/73.

S1115 by Cook (The Narcotic Addict Treatment Act of 1973, which provides for registration of practitioners conducting narcotic maintenance programs). *Status:* Passed Senate 6/13/73.

S1125 by Hughes (Comprehensive Alcohol Abuse and Alcoholism Prevention, Treatment, and Rehabilitation Act Amendments of 1973, which calls for three year extension of alcohol abuse control programs) *Status:* Passed Senate 6/21/73; hearings before House Subcommittee on Public Health and Environment.

S1191 by Mondale (Child Abuse Prevention Act, which establishes National Center on Child Abuse, assists prevention programs) *Status:* Passed Senate 7/14/73.

S1446 by Mondale (The Medical Devices Safety Act which authorizes safety standards for medical devices and requires premarket testing in some cases) *Status:* Hearings before Senate Health Subcommittee.

S1450 by Javits (extends authority for assistance to medical libraries) *Status:* Referred to Committee on Labor and Public Welfare.

S2368 by Kennedy (Medical Devices Amendments of 1973, which establishes a system for classification and testing of medical devices) *Status:* Hearings before Senate Health Subcommittee.

S2410 by Cranston (The Emergency Medical Services System Development Act of 1973, which authorizes federal aid to emergency medical services systems). Passed Senate 9/19/73; House passed HR10956 10/25/73.

S2633 by Nelson (would amend the Food, Drug and Cosmetic Act by prohibiting the labeling, advertising, or promotion of drugs by any name other than the established generic name) *Status:* No hearings as yet.

HR3153 (Extensive amendments to PL 92-603—HR-1 which includes Sen Bentsen's Amendments to PSRO law) *Status:* Passed House. Passed Senate. In Conference Committee.

National Health Insurance — Several proposals have been introduced in 1973. Extensive hearings dealing with particulars of specific legislation proposals, however, are not expected until next year.

AUSTIN: Lt Gov Bill Hobby, Speaker Price Daniel, Jr., Sen Chet Brooks and Rep Carlos Truan recently signed an agreement with the citizens conference on state legislators for a model committee staff project. This project is being funded by the Robert Wood Johnson Foundation (Johnson & Johnson). The money is to be used to hire two full-time staff members to work with the Senate and House Human Resources Committees to demonstrate the value of full-time staff for legislative committees. The two staff members are to be one "legislative generalist" and one "health professional." The position of the "health professional" was filled by F. Adam Yagodka, a 39-year-old PhD with a degree in human ecology from the University of Oklahoma Health Science Center.

COMING MEETINGS

TEXAS MEDICAL ASSOCIATION

Issues and challenges facing medicine in 1974, national health insurance, health maintenance organizations, professional standards review organizations, the 1974 election year, and Texas constitutional amendments and their significance to physicians and medicine are topics to be included in the January Conference on Legislation and Medical Service being sponsored by the Texas Medical Association January 19 at the Joe C. Thompson Conference Center in Austin. Among the speakers for the conference will be the Hon. Betty Andujar, Senator Dist. 12, Fort Worth; Dr Mouzon Biggs, associate pastor, First United Methodist Church, Houston; William J. Colley, director, Congressional Relations Department, AMA, Washington; Dr. Ernest B. Howard, executive vice president, AMA, Chicago; and Dr. Malcolm Todd, president-elect, AMA, Long Beach, Calif.

Contact: C. Lincoln Williston, 1801 N. Lamar Blvd., Austin 78701, Exec. Sec.

AMERICAN ACADEMY OF ORTHOPAEDIC SURGEONS

The 41st annual meeting of the American Academy of Orthopaedic Surgeons, being held Jan. 17-22 at the Dallas Convention Center, Dallas, will consider every phase of disorders of the musculoskeletal system. Subjects to be covered include arthritis, bone tumors, cerebral palsy, fractures, scoliosis, biomechanics, infections, children's diseases, and spine, knee, foot, and hand surgery. Special symposia will be held on fracture healing, total hip replacement, post operative care, elbow injuries in athletics, hammer toes, hand and wrist fractures, and osteotomy of the hip in children.

Contact: Dr. Charles V. Heck, American Academy of Orthopaedic Surgeons, 430 N. Michigan Ave., Chicago 60611, Exec. Dir.

TEXAS SOCIETY OF PATHOLOGISTS

The annual meeting of the Texas Society of Pathologists will take place Jan. 25-27, at the Sheraton Fairway Motor Hotel, McAllen. The program will feature the following subjects: tumors associated with hypertension; effects of estrogens and progestational agents upon liver cells organelles; Rho gam and fetal maternal transfusions; Malakoplakia, a chronic bacterial infection; functional pathology of the cardiac conduction system; and a pathologist's view of Hirschsprung's disease.

Contact: Dr. Dorothy Patras, PO Box 1118, Fort Worth 76101.

CURRENT NATIONAL MEETINGS

AMERICAN CANCER SOCIETY, COLORADO DIVISION, presents its Annual Mid-winter Cancer Seminar Jan. 30-Feb. 2 at Vail Village Inn, Vail, Colo. The scientific meeting will include new information on the treatment of cancers of the colon and rectum. Special guest speakers are Dr. Russell B. Roth, president, AMA; Dr. Martin Adson, Mayo Clinic, Rochester, Minn.; and Dr. D. M. P. Thomson, McGill University, Montreal, Canada. Contact: Dr. Edward E. Tannant, Colorado Div. ACS, 1809 E. 18th Ave., Denver 80218, Pres.

ARIZONA HEART ASSOCIATION, in cooperation with American Academy of Family Physicians, will sponsor its 17th Annual Cardiac Symposium Jan. 18-19, at the Scottsdale Hilton Hotel, Scottsdale, Ariz. Several topics included in the program are cyanotic congenital heart disease, medical and surgical management of angina pectoris, changing concepts in the management of myocardial infarction, and surgical procedure and results in the complicated coronary patient. Registration fee: $50. Contact: Arizona Heart Association, 1720 E. McDowell Rd., Phoenix, Ariz. 85006.

19TH CENTRAL FLORIDA MEDICAL MEETING, sponsored by Orange County Medical Society and Seminars & Symposia, Inc., will be held Jan. 31-Feb. 3 at Disney World, Fla. Topics on the program are urinary tract infections, significants of hematuria prostatic cancer, medical malpractice in the eyes of the law, and treatment of hypertensive emergencies. Registration fee: $150, physicians; $50, FMA members; $25, spouse. Contact: John A. Hinckley, PO Box 1537, Richmond, Va. 23212, Exec. VPres.

For other courses and symposiums, see Continuing Education Courses, pp. 37-38.

Calendar of Listings

■ Denotes Texas Meetings

JANUARY

AMERICAN ACADEMY OF ALLERGY, Bal Harbour, Fla., Jan. 19-23, 1974. James O. Kelley, 225 E. Michigan, Milwaukee, Wisc. 53202, Exec. Dir.

■ AMERICAN ASSOCIATION OF MEDICAL ASSISTANTS, STATE OF TEXAS, Austin, Jan. 21-22, 1974. Mrs. Maurine Hensley, Rt. 4, Box 250, Tyler 75701, Sec.

■ AMERICAN SOCIETY FOR SURGERY OF THE HAND, Dallas, Jan. 15-17, 1974. Dr. Ray A. Elliott, Jr., 23 Hackett Blvd., Albany, NY 12208, Pub. Com.

SOUTHWEST ALLERGY FORUM, Phoenix, Ariz., Jan. 14-16, 1974. Dr. E. G. Barnet, 550 W. Thomas Rd., Suite 233D, Phoenix 85013, Pres.

■ UNITED CEREBRAL PALSY ASSOCIATION OF TEXAS, INC., Houston, Jan. 1974. L. D. Harris, 4810 Shoal Creek, Austin 78756.

FEBRUARY

■ AMERICAN ACADEMY OF FORENSIC SCIENCES, Dallas, Feb. 13-16, 1974. Harlan L. Kimball, PO Box 308, New Hartford, Conn. 60657, Exec. Off.

AMERICAN ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE, San Francisco, Feb. 25-Mar. 2, 1974. William Bevan, 1515 Massachusetts Ave., Washington, DC 20005, Exec. Off.

AMERICAN COLLEGE OF CARDIOLOGY, New York City, Feb. 11-15, 1974. Wm. D. Nelligan, 9650 Rockville Pike, Bethesda, Md. 20014.

■ AMERICAN COLLEGE OF SURGEONS, SOUTH TEXAS CHAPTER, Temple, Tex., Feb. 1-2, 1974. Dr. Peter B. Fisher, 615 Medical Towers, Houston 77025, Sec.

AMERICAN HOSPITAL ASSOCIATION, Washington, DC, Feb. 4-7, 1974. James E. Hague, 840 N. Lake Shore Dr., Chicago 60611, Sec.

■ FIRST DISTRICT MEDICAL SOCIETY, El Paso, Feb. 1-2, 1974. Dr. John Emmett, 612 University Towers, El Paso 79902, Sec.

■ INTERNATIONAL MEDICAL ASSEMBLY OF SOUTHWEST TEXAS, San Antonio, Feb. 28-Mar. 1, 1974. S. E. Cockrell, Jr., 202 W. French Pl., San Antonio 78212.

SOCIETY FOR CONTEMPORARY OPHTHALMOLOGY, Miami Beach, Feb. 6-10, 1974. Dr. John G. Bellows, 30 N. Michigan Ave., Chicago 60602, Exec. Dir.

■ TEXAS PUBLIC HEALTH ASSOCIATION, Houston, Feb. 17-20, 1974. Robert E. Monroe, 1117 W. 42nd, No. 201, Austin 78756, Exec. Sec.

MARCH

AMERICAN ASSOCIATION OF PATHOLOGISTS AND BACTERIOLOGISTS, San Francisco, Mar. 9-12, 1974. Robert Learmouth, 9650 Rockville Pike, Bethesda, Md. 20014.

AMERICAN SOCIETY OF ABDOMINAL SURGEONS, Las Vegas, Mar. 29-Apr. 3, 1974. Dr. Blaise F. Alfano, 675 Main St., Melrose, Mass. 02176.

AMERICAN SOCIETY FOR AESTHETIC PLASTIC SURGERY, New Orleans, Mar. 3-7, 1974. Dr. Simon Fredricks, 1103 Medical Towers, Houston 77025.

AMERICAN SOCIETY OF CLINICAL PATHOLOGISTS, Los Angeles, Mar. 1-8, 1974. Dr. George F. Stevenson, 2100 W. Harrison St., Chicago 60612, Exec. Off.

AMERICAN SOCIETY FOR CLINICAL PHARMACOLOGY AND THERAPEUTICS, Maui, Hawaii, Mar. 24-25, 1974; San Francisco, Mar. 28-29, 1974. Elaine Galasso, 1718 Gallagher Rd., Norristown, Pa. 19401.

■ DALLAS SOUTHERN CLINICAL SOCIETY, Dallas, Mar. 18-20, 1974. Robert L. Heath, 433 Medical Arts Bldg., Dallas 75201.

■ FIFTH DISTRICT MEDICAL SOCIETY, San Antonio, Mar. 1, 1974. S. E. Cockrell, Jr., 202 W. French Pl., San Antonio 78212.

NEW ORLEANS GRADUATE MEDICAL ASSEMBLY, New Orleans, Mar. 11-14, 1974. Dr. Daniel C. Riordan, 1430 Tulane, New Orleans 70112, Pres.

■ NINTH DISTRICT MEDICAL SOCIETY, Sealy, Mar. 21, 1974. Dr. Max M. Diamond, 3332 Plainview, Pasadena 77504, Pres.

■ PRIVATE CLINICS AND HOSPITALS ASSOCIATION OF TEXAS, Houston, Mar. 21-22, 1974. Mrs. Judy Nichols, PO Box 155, Stephenville, Tex., Exec. Sec.

SOCIETY OF NUCLEAR MEDICINE, SOUTHWEST CHAPTER, Oklahoma City, Mar. 15-17, 1974. Dr. Thomas P. Haynie, 6723 Bertner, Houston 77025, Sec-Treas.

■ TEXAS ASSOCIATION OF OBSTETRICIANS AND GYNECOLOGISTS, Galveston, Mar. 8-9, 1974. Dr. Dennis M. Voulgaris, 2100 N. Fulton, Wharton, Tex. 77488, Sec.

■ TEXAS RADIOLOGICAL SOCIETY, San Antonio, Mar. 21-23, 1974. Dr. Francis E. O'Neill, 1128 Nix Prof. Bldg., San Antonio 78205, Sec-Treas.

APRIL

AMERICAN ACADEMY OF FACIAL PLASTIC AND RECONSTRUCTIVE SURGERY, Palm Beach, Fla., Apr. 20-22, 1974. Dr. Carl N. Patterson, 1110 W. Main St., Durham, NC, Exec. Off.

AMERICAN ACADEMY OF NEUROLOGY, San Francisco, Apr. 22-27, 1974. Stanley A. Nelson, 4005 W. 65th St., Minneapolis, Minn. 55435, Exec. Dir.

AMERICAN ACADEMY OF PEDIATRICS, Bal Harbour, Fla., Apr. 22-25, 1974. Dr. Robert G. Frazier, American Academy of Pediatrics, 1801 Hinman Ave., Evanston, Ill. 60204, Exec. Off.

AMERICAN ASSOCIATION OF ANATOMISTS, Cleveland, Apr. 1-4, 1974. Dr. John E. Pauly, Dept. of Anatomy, University of Arkansas Medical Center, Little Rock 72201.

AMERICAN ASSOCIATION FOR THORACIC SURGERY, Las Vegas, Apr. 22-24, 1974. William T. Maloney, AATS, 6 Beacon St., Suite 620, Boston 02108, Exec. Sec.

AMERICAN COLLEGE OF ALLERGISTS, Paris, France, Apr. 16-24, 1974. Dr. John D. Gillaspie, 2141 14th St., Boulder, Colo., Sec.-Treas.

■ AMERICAN COLLEGE HEALTH ASSOCIATION, Dallas, Apr. 2-5, 1974. James W. Dilley, 2807 Central, Evanston, Ill. 60201, Exec. Dir.

AMERICAN COLLEGE OF OBSTETRICIANS AND GYNECOLOGISTS, Las Vegas, Apr. 29, 1974. Dr. Michael Newton, One E. Wacker Dr., Chicago 60601, Exec. Dir.

AMERICAN COLLEGE OF PHYSICIANS, New York, Apr. 1-5, 1974. Dr. Edward C. Rosenow, Jr., ACP, 4200 Pine St., Philadelphia 19104, Exec. VPres.

AMERICAN COLLEGE OF RADIOLOGY, New Orleans, Apr. 1-5, 1974. William C. Stronach, 20 N. Wacker Dr., Room 2920, Chicago 60606, Exec. Dir.

INDUSTRIAL MEDICAL ASSOCIATION, Miami Beach, Apr. 28-May 2, 1974. Howard N. Schulz, 150 N. Wacker Dr., Chicago 60606, Exec. Dir.

SOUTHWESTERN SURGICAL CONGRESS, Monterey, Calif., Apr. 29-May 2, 1974. Dr. Jack A. Barney, 708 Physicians & Surgeons Bldg., Oklahoma City 73103, Sec-Treas.

■ TEXAS DENTAL ASSOCIATION, Dallas, Apr. 28-May 1, 1974. Dr. Joe C. Carrington, Jr., 4920 N. Interregional Hwy., Austin 78751.

■ TEXAS UROLOGICAL SOCIETY, Fort Worth, Apr. 4-6, 1974. Dr. Hugh Lamensdorf, PO Box 11340, Fort Worth 76109, Sec.

MAY

AEROSPACE MEDICAL ASSOCIATION, Washington, DC, May 6-9, 1974. Dr. Merrill H. Goodwin, ASMA, Washington National Airport, Washington, DC 20001, Exec. Sec.

■ AMERICAN COLLEGE OF CHEST PHYSICIANS, TEXAS CHAPTER, Houston, May 1974. Dr. Byron N. Dooley, 7711 Louis Pasteur, San Antonio 78229, Pres.

AMERICAN GASTROENTEROLOGICAL ASSOCIATION, San Francisco, May 19-25, 1974. Charles B. Slack, 6900 Grove Rd., Thorofare, NJ 08086, Exec. Sec.

■ AMERICAN PHYSICAL THERAPY ASSOCIATION, TEXAS CHAPTER, Galveston, May 24-26, 1974. Geraldine Midgley, PO Box 1287, Uvalde 78801, Exec. Sec.

AMERICAN PSYCHIATRIC ASSOCIATION, Detroit, May 6-10, 1974. Dr. Walter E. Barton, 1700 18th St., NW, Washington, DC 20009, Med. Dir.

■ AMERICAN PSYCHIATRIC ASSOCIATION, TEXAS DISTRICT BRANCH, Houston, May 11, 1974. Mrs. Iris Wenzel, 1801 N. Lamar Blvd., Austin 78701, Exec. Sec.

AMERICAN SOCIETY OF COLON AND RECTAL SURGEONS, Washington, DC, May 22-25, 1974. Ms. Harriette Gibson, 320 W. Lafayette, Detroit, Mich. 48226, Admin. Sec.

AMERICAN SOCIETY OF INTERNAL MEDICINE, San Francisco, May 2-5, 1974. William R. Ramsey, 535 Central Tower Bldg., Third and Market Sts., San Francisco 94103, Exec. Dir.

AMERICAN THORACIC SOCIETY, Cincinnati, Ohio, May 12-15, 1974. Robert G. Weymueller, 1749 Broadway, New York 10019, Exec. Dir.

AMERICAN UROLOGICAL ASSOCIATION, St. Louis, Mo., May 19-23, 1974. Richard J. Hannigan, 1120 N. Charles St., Baltimore, Md. 21201, Exec. Off.

■ CONFERENCE OF CITY AND COUNTY HEALTH OFFICERS, Houston, May, 1974. Dr. J. E. Peavy, Commissioner of Health, Texas State Dept. of Health, 1100 W. 49th St., Austin 78756.

■ TEXAS AIR-MEDICS ASSOCIATION, Houston, May 9, 1974. Dr. C. F. Miller, PO Box 1338, Waco 78203, Sec-Treas.

■ TEXAS ASSOCIATION OF PHYSICIANS IN NUCLEAR MEDICINE, Houston, May, 1974. Dr. Robert W. Parkey, 5323 Harry Hines, Dallas 78235, Sec.

■ TEXAS DIABETES ASSOCIATION, Houston, May, 1974. Dr. Eric A. Orzeck, 918 Medical Towers, Houston 77025.

■ **TEXAS MEDICAL ASSOCIATION, Houston, May 8-12, 1974. C. Lincoln Williston, 1801 N. Lamar Blvd., Austin 78701, Exec. Sec.**

■ TEXAS OPHTHALMOLOGICAL ASSOCIATION, Houston, May 9-12, 1974, and European tour, May 12-31, 1974. Dr. C. A. Struve, PO Box 6374, Corpus Christi 78411.

■ TEXAS ORTHOPAEDIC ASSOCIATION, Houston, May, 1974. Dr. John A. Murray, 5401 Caroline, Houston 77004, Prog. Chrmn.

■ TEXAS OTOLARYNGOLOGICAL ASSOCIATION, Houston, May, 1974. Dr. John W. Youngblood, 505 Medical Park Tower, Austin 78705, Sec.

■ TEXAS PROCTOLOGIC SOCIETY, Houston, May 9, 1974. Dr. W. Bailey, 712 N. Washington, Dallas 75246.

■ TEXAS RHEUMATISM ASSOCIATION, Houston, May, 1974. Dr. J. E. Norris, 6448 Fannin, Houston 77025, Pres.

■ TEXAS SOCIETY OF ANESTHESIOLOGISTS, Houston, May, 1974. Dr. Cecil R. Glass, 2525 Calder Ave., Beaumont 77702, Sec.

■ TEXAS SOCIETY OF ATHLETIC TEAM PHYSICIANS, Houston, May 10, 1974. Dr. Bobby L. Stafford, 8 Medical Dr., Amarillo 79106, Sec.

■ TEXAS SOCIETY OF PLASTIC SURGEONS, Houston, May 9-11, 1974. Dr. Jeff Moore, PO Box 3755, Amarillo 79106, Sec.

JUNE

AMERICAN DIABETES ASSOCIATION, Atlanta, Ga., June 15-16, 1974. J. Richard Connelly, American Diabetes Association, 18 E. 48th St., New York 10017, Exec. Dir.

AMERICAN NEUROLOGICAL ASSOCIATION, Boston, June 10-12, 1974. Dr. Samuel A. Trufant, Cincinnati General Hospital, Cincinnati, Ohio 45229, Sec.

AMERICAN PHYSICAL THERAPY ASSOCIATION, Montreal, Can., June 14-22, 1974. Royce P. Noland, 1156 15th St. NW, Washington, DC 20005, Exec. Dir.

ENDOCRINE SOCIETY, Atlanta, Ga., June 12-14, 1974. Mrs. Marcella M. Branch, 1141 Classen Blvd., Suite 319, Oklahoma City 73106, Exec. Sec.

■ MEDICAL LIBRARY ASSOCIATION, San Antonio, June 2-4, 1974. John S. LoSasso, Medical Library Association, 919 N. Michigan, Suite 3208, Chicago 60611, Exec. Dir.

SEPTEMBER

■ **TEXAS MEDICAL ASSOCIATION, Austin, Sept. 20-22, 1974. C. Lincoln Williston, 1801 N. Lamar Blvd., Austin 78701, Exec. Sec.**

WORLD MEDICAL ASSOCIATION, Stockholm, Sweden, Sept. 1-8, 1974. Ms. Margaret L. Natwick, World Medical Association, 10 Columbus Circle, New York 10019, Exec. Sec.

OCTOBER

AMERICAN COLLEGE OF SURGEONS, Miami Beach, Oct. 21-25, 1974. Dr. C. Rollins Hanlon, American College of Surgeons, 55 E. Erie St., Chicago 60611, Dir.

AMERICAN DIETETIC ASSOCIATION, Philadelphia, Oct. 7-11, 1974. Robert M. Crum, J.D., American Dietetic Association, 620 N. Michigan Ave., Chicago 60611, Exec. Dir.

NOVEMBER

AMERICAN ACADEMY OF PHYSICAL MEDICINE AND REHABILITATION, San Francisco, Nov. 16-19, 1974. Creston C. Herold, 30 N. Michigan Ave., Chicago 60602, Exec. Dir.

AMERICAN CONGRESS OF REHABILITATION MEDICINE, San Francisco, Nov. 20-22, 1974. Creston C. Herold, 30 N. Michigan Ave., Chicago 60602, Exec. Dir.

■ AMERICAN HEART ASSOCIATION, Dallas, Nov. 18-23, 1974. William W. Moore, 44 E. 23rd St., New York 10010, Exec. Off.

■ TEXAS ACADEMY OF FAMILY PHYSICIANS, Galveston, Nov. 9-13, 1974. Donald C. Jackson, 1905 N. Lamar Blvd., Austin 78705, Exec. Dir.

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Remember that Tandearil is not a simple analgesic. It should not be used on patients responding to routine therapy. Before using, please read the prescribing information. It's summarized below.

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Tablets of 100 mg.

Important Note: This drug is not a simple analgesic. Do not administer casually. Carefully evaluate patients before starting treatment and keep them under close supervision. Obtain a detailed history, and complete physical and laboratory examination (complete hemogram, urinalysis, etc.) before prescribing and at frequent intervals thereafter. Carefully select patients, avoiding those responsive to routine measures, contraindicated patients or those who cannot be observed frequently. Warn patients not to exceed recommended dosage. Short-term relief of severe symptoms with the smallest possible dosage is the goal of therapy. Dosage should be taken with meals or a full glass of milk. Patients should discontinue the drug and report immediately any sign of: fever, sore throat, oral lesions (symptoms of blood dyscrasia); dyspepsia, epigastric pain, symptoms of anemia, black or tarry stools or other evidence of intestinal ulceration or hemorrhage, skin reactions, significant weight gain or edema. A one-week trial period is adequate. Discontinue in the absence of a favorable response. Restrict treatment periods to one week in patients over sixty.

Indications: Acute gouty arthritis, rheumatoid arthritis, rheumatoid spondylitis.

Contraindications: Children 14 years or less; senile patients; history or symptoms of G.I. inflammation or ulceration including severe, recurrent or persistent dyspepsia; history or presence of drug allergy; blood dyscrasias; renal, hepatic or cardiac dysfunction; hypertension; thyroid disease; systemic edema; stomatitis and salivary gland enlargement due to the drug; polymyalgia rheumatica and temporal arteritis; patients receiving other potent chemotherapeutic agents, or long-term anticoagulant therapy.

Warnings: Age, weight, dosage, duration of therapy, existence of concomitant diseases, and concurrent potent chemotherapy affect incidence of toxic reactions. Carefully instruct and observe the individual patient, especially the aging (forty years and over) who have increased susceptibility to the toxicity of the drug. Use lowest effective dosage. Weigh initially unpredictable benefits against potential risk of severe, even fatal, reactions. The disease condition itself is unaltered by the drug. Use with caution in first trimester of pregnancy and in nursing mothers. Drug may appear in cord blood and breast milk. Serious, even fatal, blood dyscrasias, including aplastic anemia, may occur suddenly despite regular hemograms, and may become manifest days or weeks after cessation of drug. Any significant change in total white count, relative decrease in granulocytes, appearance of immature forms, or fall in hematocrit should signal immediate cessation of therapy and complete hematologic investigation. Unexplained bleeding involving CNS, adrenals, and G.I. tract has occurred. The drug may potentiate action of insulin, sulfonylurea, and sulfonamide-type agents. Carefully observe patients taking these agents. Nontoxic and toxic goiters and myxedema have been reported (the drug reduces iodine uptake by the thyroid). Blurred vision can be a significant toxic symptom worthy of a complete ophthalmological examination. Swelling of ankles or face in patients under sixty may be prevented by reducing dosage. If edema occurs in patients over sixty, discontinue drug.

Precautions: The following should be accomplished at regular intervals: Careful detailed history for disease being treated and detection of earliest signs of adverse reactions; complete physical examination including check of patient's weight; complete weekly (especially for the aging) or an every two week blood check; pertinent laboratory studies. Caution patients about participating in activity requiring alertness and coordination, as driving a car, etc. Cases of leukemia have been reported in patients with a history of short- and long-term therapy. The majority of these patients were over forty. Remember that arthritic-type pains can be the presenting symptom of leukemia.

Adverse Reactions: This is a potent drug; its misuse can lead to serious results. Review detailed information before beginning therapy. Ulcerative esophagitis, acute and reactivated gastric and duodenal ulcer with perforation and hemorrhage, ulceration and perforation of large bowel, occult G.I. bleeding with anemia, gastritis, epigastric pain, hematemesis, dyspepsia, nausea, vomiting and diarrhea, abdominal distention, agranulocytosis, aplastic anemia, hemolytic anemia, anemia due to blood loss including occult G.I. bleeding, thrombocytopenia, pancytopenia, leukemia, leukopenia, bone marrow depression, sodium and chloride retention, water retention and edema, plasma dilution, respiratory alkalosis, metabolic acidosis, fatal and nonfatal hepatitis (cholestasis may or may not be prominent), petechiae, purpura without thrombocytopenia, toxic pruritus, erythema nodosum, erythema multiforme, Stevens-Johnson syndrome, Lyell's syndrome (toxic necrotizing epidermolysis), exfoliative dermatitis, serum sickness, hypersensitivity angiitis (polyarteritis), anaphylactic shock, urticaria, arthralgia, fever, rashes (all allergic reactions require prompt and permanent withdrawal of the drug), proteinuria, hematuria, oliguria, anuria, renal failure with azotemia, glomerulonephritis, acute tubular necrosis, nephrotic syndrome, bilateral renal cortical necrosis, renal stones, ureteral obstruction with uric acid crystals due to uricosuric action of drug, impaired renal function, cardiac decompensation, hypertension, pericarditis, diffuse interstitial myocarditis with muscle necrosis, perivascular granulomata, aggravation of temporal arteritis in patients with polymyalgia rheumatica, optic neuritis, blurred vision, retinal hemorrhage, toxic amblyopia, retinal detachment, hearing loss, hyperglycemia, thyroid hyperplasia, toxic goiter, association of hyperthyroidism and hypothyroidism (causal relationship not established), agitation, confusional states, lethargy; CNS reactions associated with overdosage, including convulsions, euphoria, psychosis, depression, headaches, hallucinations, giddiness, vertigo, coma, hyperventilation, insomnia; ulcerative stomatitis, salivary gland enlargement.

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The Weight of Professional Opinion

It's time for action to defend the laws and regulations that protect your patients against drug substitution.

These professional and trade organizations are united in supporting antisubstitution statutes and regulations:

The American Academy of Dermatology

The Board of Directors of the American Academy of Family Physicians

The Executive Board of the American Academy of Neurology

The Committee on Drugs of the American Academy of Pediatrics

The American College of Allergists

The Executive Committee of the American College of Obstetricians and Gynecologists

The Board of Regents of the American College of Physicians

The Board of Trustees of the American Dental Association

The Board of Trustees of the American Medical Association

The American Psychiatric Association

The Executive Committee of the National Association of Retail Druggists

The Board of Directors of the Pharmaceutical Manufacturers Association

The National Wholesale Druggists' Association

Joint Statement on Antisubstitution Laws and Regulations

The purpose of this statement is to affirm the support of the participating organizations for the laws, regulations and professional traditions which prohibit the unauthorized substitution of drug products.

Traditionally, physicians, dentists and pharmacists have worked cooperatively to serve the best interests of patients. Productive cooperation has been achieved through mutual respect as well as a common concern for the ideals of public service. This mutual respect has been reflected, in part, by joint support over the years for the adoption and enforcement of laws and regulations specifically prohibiting unauthorized substitution and encouraging joint discussion and selection of the source of supply of drug products. The basic principles of medical, dental and pharmacy practice are thus utilized and preserved in the interest of patient welfare.

The antisubstitution laws have not obstructed enhancement of the professional status of pharmacy any more than they have in and of themselves guaranteed absolute protection from unsafe drugs, or freed physicians, dentists and pharmacists from their responsibilities to patients. As a practical matter, however, such laws and regulations encourage interprofessional communications regarding drug product selection and assure each profession the opportunity to exercise fully its expertise in drug usage, to the advantage of patients.

Physicians and dentists should be urged to increase the frequency and regularity of their contacts with pharmacists in selection of quality drug products; recognizing that economies to patients can be improved through such communication, taking into account the patients' needs. The pharmacist's knowledge of the chemical characteristics of drugs, their mode of action, toxic properties and other characteristics that assist in making drug selection decisions should be utilized to the fullest extent practicable by physicians and dentists in serving their patients.

Since drug product selection entails knowledge derived from clinical experience, the physician's and dentist's roles in product selection remain primary and do not permit delegation of decisions requiring medical and dental judgments. A broader role in therapy will evolve for pharmacists as improved understanding and cooperation among the professions continue to grow.

There has been no evidence that there are convincing reasons to modify or repeal existing laws and regulations prohibiting the unauthorized substitution of another drug product for the one specified by a prescriber. It is our belief that such laws and regulations merit the joint support of the medical, dental and pharmaceutical professions and the pharmaceutical industry.

Add your opinion to the weight of other professionals and send it to your state assemblyman or legislator.

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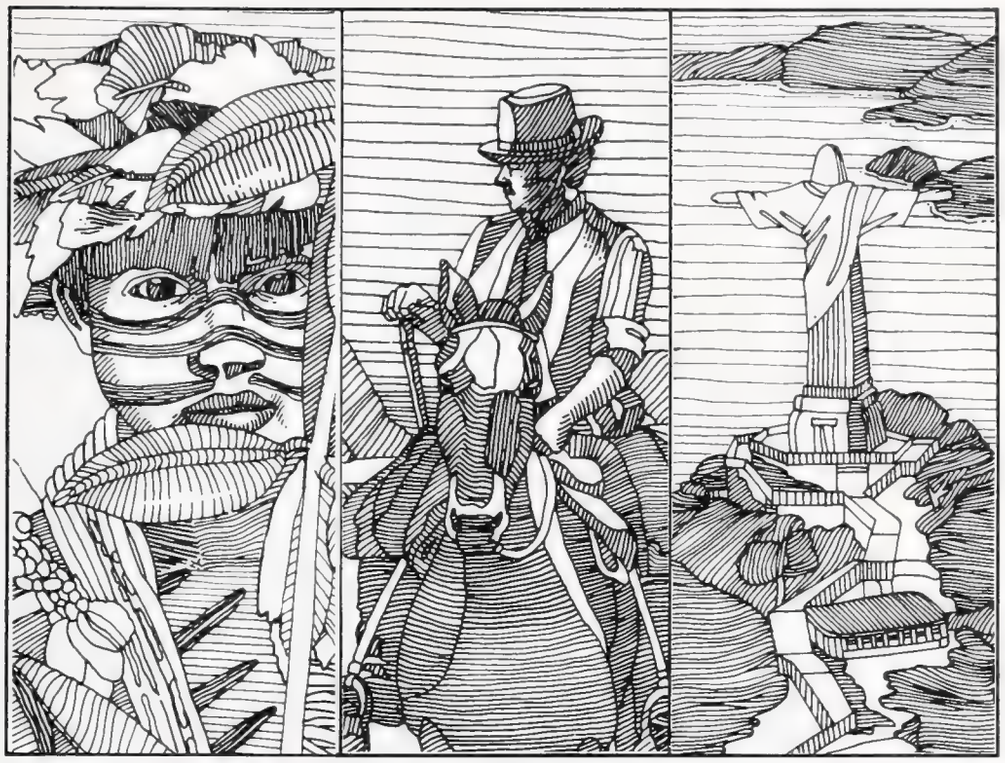

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CONTINUING EDUCATION COURSES

JANUARY

Genetics: A symposium on practical genetics for the family physician will be held Jan 26 at Baylor College of Medicine, Houston. It is co-sponsored by the American Academy of Family Physicians and National Foundation-March of Dimes. The Program is acceptable for 6 prescribed hours by the AAFP. Contact: Fred York, National Foundation-March of Dimes, 5555 W. Loop South, Bellaire, Tex. 77401.

Internal Medicine: The University of Texas Health Science Center at San Antonio will sponsor a course entitled "Medical Intensive Care Course No. 1" Jan 10-Mar 14, 1974. The course will be held each Thursday at The University of Texas Medical School at San Antonio. Fee: $150. Credit: 90 hours AAFP; Category I, AMA Physician's Recognition Award. Contact: Dr. Paul Cutler, Associate Dean for Continuing Medical Education, UT Medical School at San Antonio, 7703 Floyd Curl Dr., San Antonio 78284.

Medicine: The University of Texas Medical Branch at Galveston will present a course on the history and philosophy of medicine Jan 17-18. Speakers will be Dr. H. Tristram Engelhardt, Jr., assistant professor of philosophy of medicine, and Dr. Chester R. Burns, both from The University of Texas Medical Branch at Galveston. Contact: Dr. H. Tristram Engelhardt, Jr., The University of Texas Medical Branch, Galveston 77550.

Obstetrics and Gynecology: The Mike Hogg Intensive Review in Obstetrics and Gynecology, being held Jan 24-26, at St. Joseph Hospital, Houston, will cover recent developments in obstetrics and gynecology. A review of various topics intended for the practicing physician and candidates for the American Board of Obstetrics and Gynecology examinations will also be presented. Contact: Office of the Director, The University of Texas Health Science Center at Houston, Division of Continuing Education, PO Box 20367, Houston 77025.

Obstetrics and Gynecology: The Department of Obstetrics and Gynecology of The University of Texas Medical School at San Antonio will sponsor a postgraduate course Jan 24-30 on current obstetric and gynecologic practice. The course will be given in three parts, gynecologic pathophysiology and oncology; gynecologic endocrinology and genetics; and obstetrical pathophysiology; and is designed primarily as an aid to candidates for the American Board of Obstetrics and Gynecology examination. Enrollment is limited to 150, and fee is $250. Contact: Dr. C. J. Pauerstein, Dept. Ob-Gyn, The University of Texas Medical School at San Antonio, 7703 Floyd Curl Dr., San Antonio 78284.

Ophthalmology: A basic science course in ophthalmology, sponsored by The University of Texas Health Science Center at Houston, lasts eight weeks and is primarily for residents in training. The next course is scheduled for Jan 7-Mar 1, 1974. Instruction is by lectures supplemented with laboratory sessions. Visual aids will be used to reproduce clinical entities, and ophthalmic equipment is available for demonstration and instruction. Enrollment is limited, and tuition for the course is $575. For more information, contact: Office of the Director, The University of Texas Health Science Center at Houston, Division of Continuing Education, PO Box 20367, Houston 77025.

Ophthalmology: A bi-monthly clinical conference in ophthalmology is being sponsored by The University of Texas Health Science Center at Dallas, and will be held at Parkland Memorial Hospital, Jan 16. Contact: Dr. John Lynn, Dept. of Ophthalmology, or Dr. George J. Race, Associate Dean for Continuing Education, UT Health Science Center at Dallas, 5323 Harry Hines Blvd., Dallas 78235.

Pediatrics: A seminar in pediatric nephrology entitled "Current Concepts in Diagnosis and Management" is being sponsored by the Division of Pediatric Nephrology, Department of Pediatrics, University of Miami School of Medicine, Jan 2-5. Pathogenesis, pathology, clinico-pathological correlations, functional derangements and treatment of glomerulopathies, structural defects and infections, and chronic uremia will be emphasized during the seminar. Tuition is $125. Contact: Division of Continuing Education, University of Miami School of Medicine, PO Box 875, Biscayne Annex, Miami 33152.

Psychiatry: The University of Texas Health Science Center at Houston presents "Psychiatry in Medical Practice II" Jan 24-Apr 25, at The University of Texas Health Science Center at Houston. The course will be held one day a week for 14 weeks, and is accredited by the AAFP. Contact: Dr. Grant Taylor, Director, UT Health Science Center at Houston, Texas Medical Center, Houston 77025.

Psychiatry: "Sleep and Dreams," sponsored by The University of Texas Health Science Center at San Antonio, will be held Jan 14-15 at The University of Texas Medical School at San Antonio. Fee: $65. Credit: 10 hours AAFP; Category I, AMA Physician's Recognition Award. Contact: Dr. Paul Cutler, Associate Dean for Continuing Medical Education, UT Medical School at San Antonio, 7703 Floyd Curl Dr., San Antonio 78284.

Rheumatology: "Rheumatology for the Family Physician," sponsored by The University of Texas Health Science Center at San Antonio, will be presented Jan 10-Feb 28 at The University of Texas Medical School at San Antonio. The course will meet each Thursday for 8 weeks and is accredited for 16 hours AAFP, and Category I, AMA Physician's Recognition Award. Fee: $100. Teaching methods are audiovisual

materials, bedside rounds, open question, patient demonstration, and television. Contact: Dr. Paul Cutler, Associate Dean for Continuing Medical Education, UT Medical School at San Antonio, 7703 Floyd Curl Dr., San Antonio 78284.

FEBRUARY

Anesthesiology: Sponsored by The University of Texas Medical Branch at Galveston, the course, "Practical Respiratory Therapy and Evaluation of Patients," will be presented Feb 11-13 in Galveston. Fee: $75. Credit: 18 prescribed hours, AAFP. Contact: Dr. S. R. Lewis, Director, Postgraduate Division, The University of Texas Medical Branch, Galveston 77550.

Cardiology: "Cardiologic Perspectives for the Internist: 1974" is the title of a course being cosponsored by Baylor College of Medicine, Houston, and the American College of Physicians. The course is scheduled for Feb 27-Mar 1, in Houston, and is designed to give the general internist and cardiologist an overview of the current management practices of patients with coronary artery disease, hypertensive vascular disease, and cardiopulmonary disease. Registration fee is $100 for members of American College of Physicians, and $150 for nonmembers. Associate fee is $50. Contact: The American College of Physicians, 4200 Pine St., Philadelphia 19104.

Neuroradiology: "Introduction to Neuroradiology" is designed to provide a review of the field of neuroradiology for radiologists, neurologists, neurosurgeons, and any clinician dealing with neurological disease. Sponsored by the University of Oklahoma College of Medicine, the course will be held Feb 1-2 in Oklahoma City. Contact: Office of Continuing Medical Education for Physicians, University of Oklahoma College of Medicine, PO Box 26901, Oklahoma City 73190.

Nutrition: A symposium on the application of nutrition in the health sciences is being sponsored by The University of Texas Health Science Center at Houston. The course is scheduled for Feb 8-9 in the Jesse Jones Library Building, Houston. The program will be presented in four parts: Metabolic Adaptation. Assessment of Nutrition Disorders; Nutrition and Medical Education; and Nutritional Aspects of Vision. Fee: $25. Contact: Dr. Grant Taylor, Director, The University of Texas Health Science Center at Houston, Texas Medical Center, Houston 77025.

MARCH

Disease: The physiological basis of clinical disease will be the subject of a course presented by the American College of Physicians and The University of Texas Southwestern Medical School at Dallas. It will be held at the Marriott Motor Hotel Mar 4-7, and the pathophysiology of hypertension, diabetes mellitus, pulmonary disorders, cardiovascular disease, and the disorders of the immunologic system, as well as liver diseases and gastroenterologic derangements, will be covered in the course. Member fee is $120; nonmembers, $175; and associate, $60. Contact: The American College of Physicians, 4200 Pine St., Philadelphia 19104.

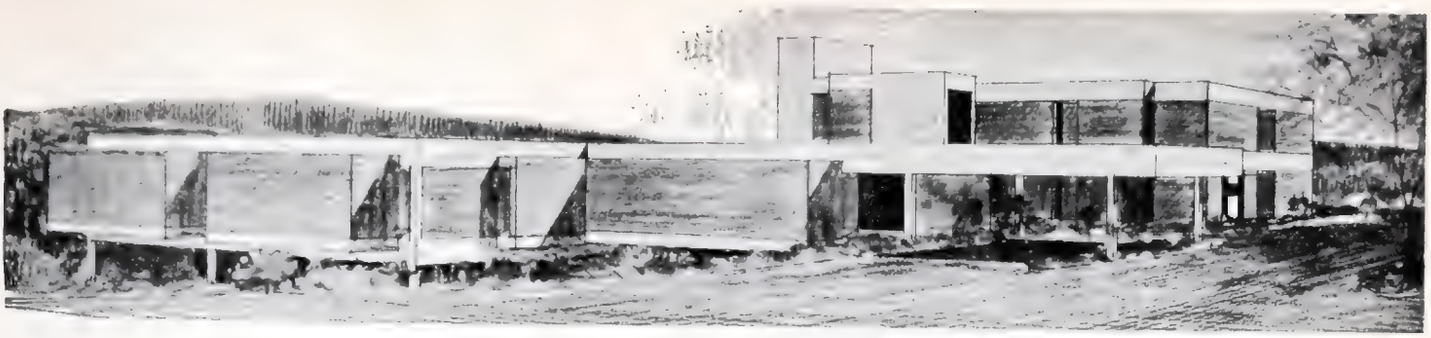
Ophthalmology: The Department of Ophthalmology at The University of Texas Medical Branch in Galveston will present its Eighth Annual Postgraduate Alumni Meeting Mar 30, at the Shriners Burns Institute in Galveston. Duration is one day with 8 total course hours. Fee: $25. Contact: Dr. John H. Brennan, Dept. of Ophthalmology. The University of Texas Medical Branch, Galveston 77550.

Pathology: The Houston Society of Clinical Pathologists, in conjunction with Baylor College of Medicine, Houston, will present its 14th Annual Seminar entitled "Current Problems in Liver Disease" on Mar 30, 1974. The seminar will be held in the Main Auditorium, Baylor College of Medicine. Subjects to be discussed include viral hepatitis, hepatitis-associated antigen testing, clinical aspects and pathology of chronic active hepatitis, clinical aspects and pathology of primary biliary cirrhosis, hepatic tumors, and clinical laboratory testing in liver disease. Registration fee is $50. Contact: Dr. Jack L. Titus, Baylor College of Medicine, Texas Medical Center, Houston 77025, Seminar Chairman.

Pathology: A program on normal and abnormal morphology and function of the reticuloendothelial system will be given at the Annual Meeting of the US-Canadian Division of the International Academy of Pathology at the San Francisco Hilton Hotel Mar 13-14. Contact: Mrs. J. Preston, IAP Registrar, Armed Forces Institute of Pathology, Washington, DC 20306.

APRIL

Anesthesiology: "Clinical Anesthesiology for General Practitioners" will include demonstrations and discussions on airway management, resuscitation and tracheal intubation, intravenous supplements to general anesthesia, management of problems in clinical anesthesia, practical nerve block and toxicity of local anesthetic agents, and preoperative and postoperative management of anesthetic complications. The course is sponsored by the University of Oklahoma Health Sciences Center and will be held Apr 22-26 in Oklahoma City. Contact: Office of Continuing Medical Education for Physicians, University of Oklahoma Health Sciences Center, PO Box 26901, Oklahoma City 73190.



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CONTRAINDICATIONS: Hypersensitivity to any of the tetracyclines.

WARNINGS: Tetracycline usage during tooth development (last half of pregnancy to eight years) may cause permanent tooth discoloration (yellow-gray-brown), which is more common during long-term use but has occurred after repeated short-term courses. Enamel hypoplasia has also been reported. **Tetracyclines should not be used in this age group unless other drugs are not likely to be effective or are contraindicated.**

Usage in pregnancy. (See above **WARNINGS** about use during tooth development.)

Animal studies indicate that tetracyclines cross the placenta and can be toxic to the developing fetus (often related to retardation of skeletal development). Embryotoxicity has also been noted in animals treated early in pregnancy.

Usage in newborns, infants, and children. (See above **WARNINGS** about use during tooth development.)

All tetracyclines form a stable calcium complex in any bone-forming tissue. A decrease in fibula growth rate observed in prematures given oral tetracycline 25 mg/kg every 6 hours was reversible when drug was discontinued.

Tetracyclines are present in milk of lactating women taking tetracyclines.

To avoid excess systemic accumulation and liver toxicity in patients with impaired renal function, reduce usual total dosage and, if therapy is prolonged, consider serum level determinations of drug. The anti-anabolic action of tetracyclines may increase BUN. While not a problem in normal renal function, in patients with significantly impaired function, higher tetracycline serum levels may lead to azotemia, hyperphosphatemia, and acidosis.

Photosensitivity manifested by exaggerated sunburn reaction has occurred with tetracyclines. Patients apt to be exposed to direct sunlight or ultraviolet light should be so advised, and treatment should be discontinued at first evidence of skin erythema.

PRECAUTIONS: If superinfection occurs due to overgrowth of nonsusceptible organisms, including fungi, discontinue antibiotic and start appropriate therapy.

In venereal disease, when coexistent syphilis is suspected, perform darkfield examination before therapy, and serologically test for syphilis monthly for at least four months.

Tetracyclines have been shown to depress plasma prothrombin activity; patients on anticoagulant therapy may require downward adjustment of their anticoagulant dosage.

In long-term therapy, perform periodic organ system evaluations (including blood, renal, hepatic).

Treat all Group A beta-hemolytic streptococcal infections for at least 10 days.

Since bacteriostatic drugs may interfere with the bactericidal action of penicillin, avoid giving tetracycline with penicillin

ADVERSE REACTIONS: Gastrointestinal (oral and parenteral forms): anorexia, nausea, vomiting, diarrhea, glossitis, dysphagia, enterocolitis, inflammatory lesions (with monilial overgrowth) in the anogenital region.

Skin: maculopapular and erythematous rashes; exfoliative dermatitis (uncommon). Photosensitivity is discussed above (See **WARNINGS**).

Renal toxicity: rise in BUN, apparently dose related (See **WARNINGS**).

Hypersensitivity: urticaria, angioneurotic edema, anaphylaxis, anaphylactoid purpura, pericarditis, exacerbation of systemic lupus erythematosus.

Bulging fontanels, reported in young infants after full therapeutic dosage, have disappeared rapidly when drug was discontinued.

Blood: hemolytic anemia, thrombocytopenia, neutropenia, eosinophilia.

Over prolonged periods, tetracyclines have been reported to produce brown-black microscopic discoloration of thyroid glands; no abnormalities of thyroid function studies are known to occur.

USUAL DOSAGE: Adults—600 mg daily, divided into two or four equally spaced doses. More severe infections: an initial dose of 300 mg followed by 150 mg every six hours or 300 mg every 12 hours. Gonorrhea: In uncomplicated gonorrhea, when penicillin is contraindicated, 'Rondomycin' (methacycline HCl) may be used for treating both males and females in the following clinical dosage schedule: 900 mg initially, followed by 300 mg q.i.d. for a total of 5.4 grams.

For treatment of syphilis, when penicillin is contraindicated, a total of 18 to 24 grams of 'Rondomycin' (methacycline HCl) in equally divided doses over a period of 10-15 days should be given. Close follow-up, including laboratory tests, is recommended.

Eaton Agent pneumonia: 900 mg daily for six days.

Children—3 to 6 mg/lb/day divided into two to four equally spaced doses.

Therapy should be continued for at least 24-48 hours after symptoms and fever have subsided

Concomitant therapy: Antacids containing aluminum, calcium or magnesium impair absorption and are contraindicated. Food and some dairy products also interfere. Give drug one hour before or two hours after meals. Pediatric oral dosage forms should not be given with milk formulas and should be given at least one hour prior to feeding.

In patients with renal impairment (see **WARNINGS**), total dosage should be decreased by reducing recommended individual doses or by extending time intervals between doses.

In streptococcal infections, a therapeutic dose should be given for at least 10 days.

SUPPLIED: 'Rondomycin' (methacycline HCl): 150 mg and 300 mg capsules; syrup containing 75 mg/5 cc methacycline HCl.

Before prescribing, consult package circular or latest PDR information.

Rev. 6/73

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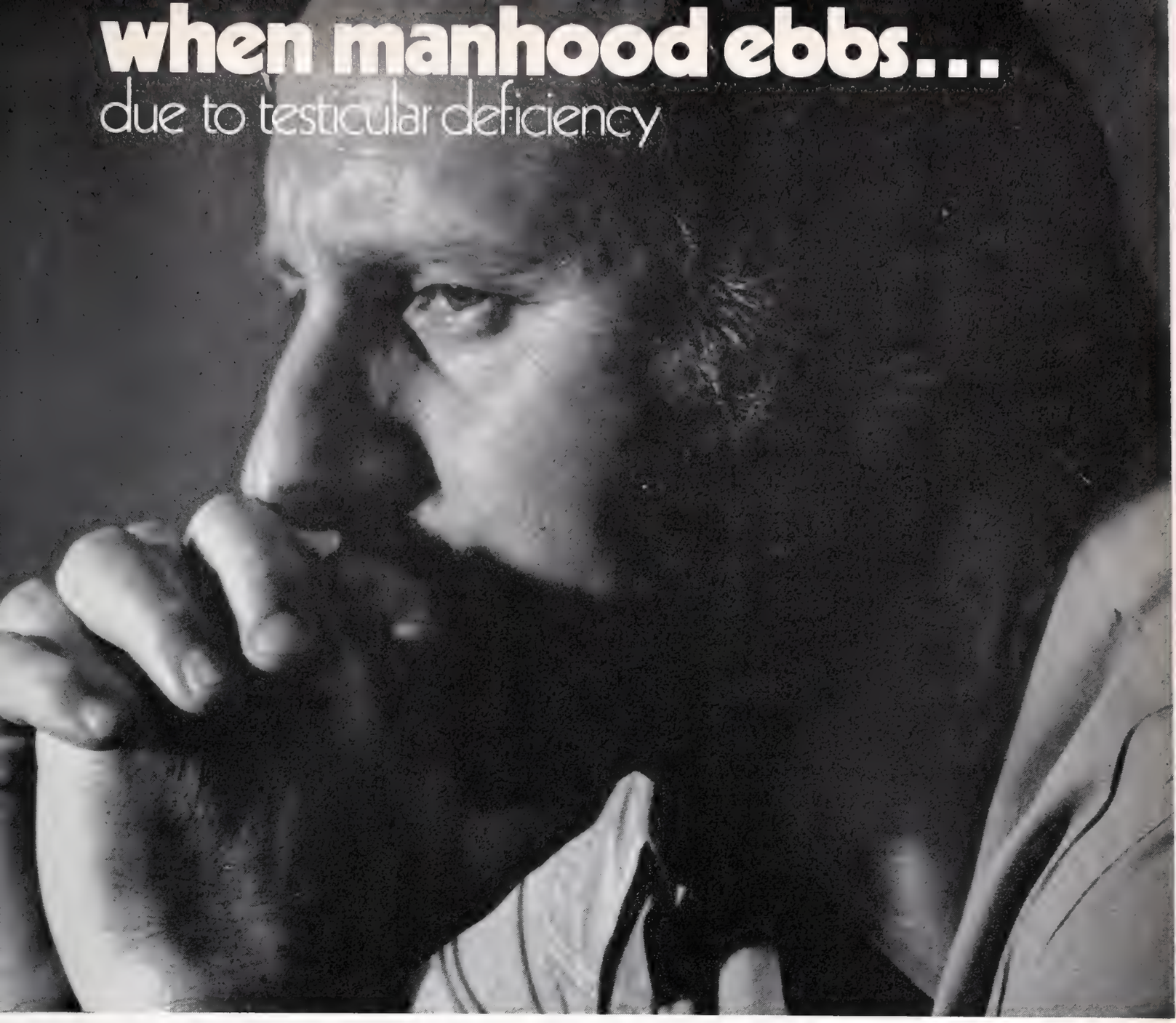

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Contributions, previously unpublished, are welcomed for review. News and other items should be sent to the Editorial Offices by the 5th of the month preceding the month of publication. All contributions are sent at the owner's risk.

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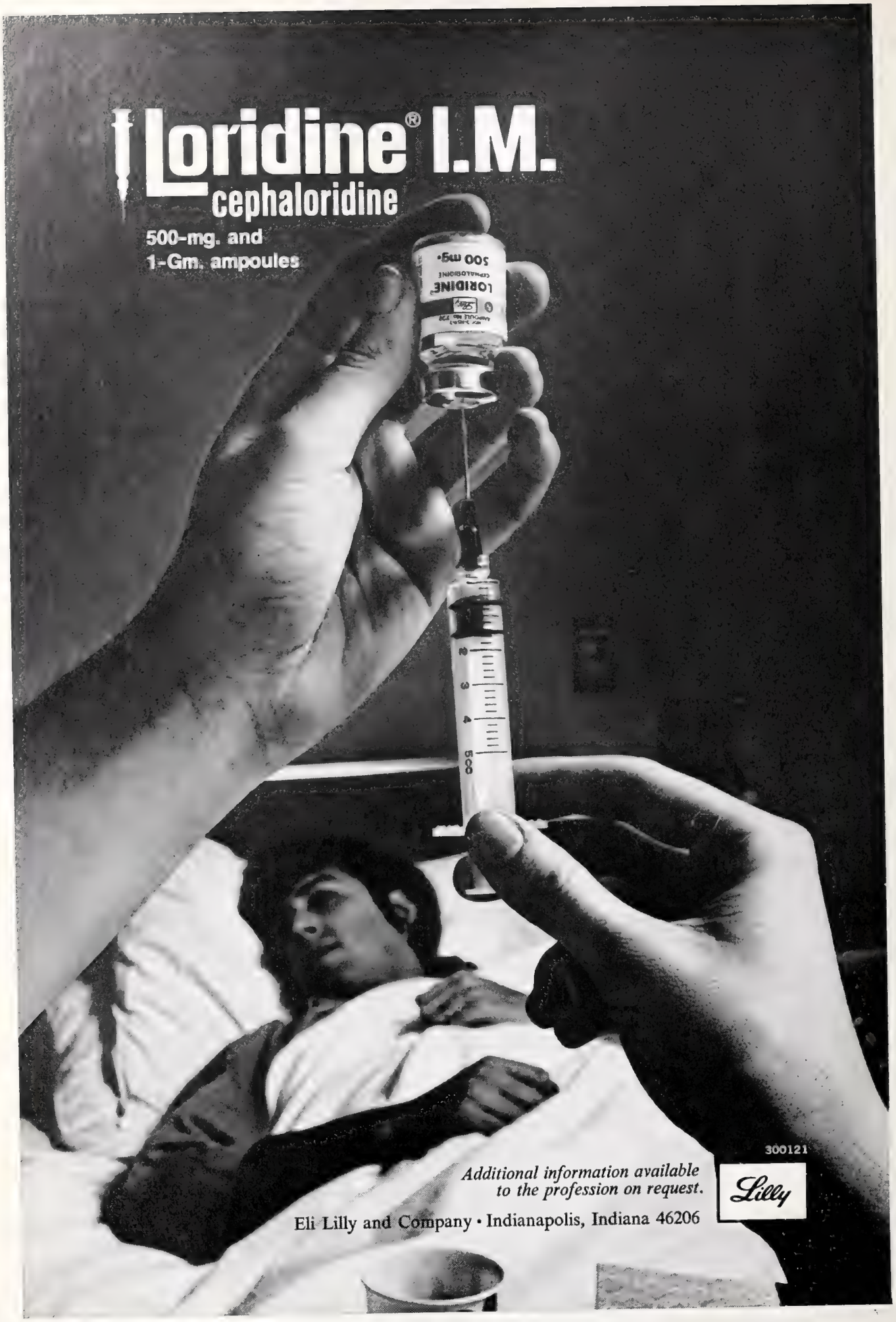
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Treating essential hypertension

John H. Moyer, MD

The goal of a therapeutic program for treating hypertension is to reduce the blood pressure to approximately normal limits and maintain it within those limits. Today, the therapist should be able to accomplish this objective in 80 to 90% of his patients with hypertensive vascular disease. If it can be achieved, the prognosis should be greatly improved. In fact, if the blood pressure is treated early enough, before atherosclerosis and vascular damage have occurred, the prognosis should be nearly the same as that for an average normotensive person of the same age and sex.

Clinical Pharmacology of Hypertension

The mechanism directly responsible for the elevation of blood pressure in essential hypertension is constriction of the arteriolar system throughout the body. When the neuroeffector site of the blood vessel is stimulated and the arteriole constricts, the blood pressure increases. It is quite likely that the hereditary component of the hypertensive syndrome is carried as a defect in function at this site.

The preganglionic neurons of the sympathetic nervous system (which innervates the blood vessels) are located in the spinal cord and receive impulses originating in the brain, particularly from the vasoregulatory area of the medulla. After the axon of the preganglionic neuron leaves the spinal canal, it forms a synapse at the sympathetic ganglion with the postganglionic neuron. (It is these ganglia which are removed when a surgical sympathectomy is done.) The postganglionic neuron goes to the blood vessel and innervates the vasoconstrictor fibers of the vessel wall. At this point catecholamines (norepinephrine and epinephrine) are released, producing vasoconstriction through their action on receptors at the neuroeffector site. These receptors are known as alpha receptors, and a drug that blocks the vasoconstrictor impulses at the blood vessel itself is referred to as an alpha blocking agent; a typical agent of this kind is phenoxybenzamine (Dibenzyline).

Concurrently, the sympathetic nervous system also innervates the heart. When the sympathetic nerves to the heart are stimulated, the response is quite similar to that produced by administration of epinephrine. The primary type of receptor found at the neuroeffector sites in the heart is known as a beta receptor. Drugs that block the ability of epinephrine and norepinephrine to stimulate the myocardial fibers, such as propranolol (Inderal) are known as beta blockers. Thus the alpha blocking agents are primarily effective in reducing the response to sympathetic stimuli in the blood vessel, and the beta blockers are primarily responsible for reducing the response to sympathetic stimuli in the heart.

Guanethidine and reserpine apparently depress the release of catecholamines at the neuroeffector site of *both* the alpha and beta receptors. They do not block the effect of administered norepinephrine circulating in the blood vessel. Therefore when the blood pressure is reduced with a drug such as guanethidine or reserpine, it should be kept in mind that the patient will still respond to infused norepinephrine. This is particularly important if overdosage occurs, since the pressure can be raised readily with infused vasoconstrictors such as norepinephrine. Indeed, the blood vessel is more sensitive and responsive to infused norepinephrine than it is in the normotensive patient who has not received drugs. Consequently, excessive hypotension that might occur, as for example in

the patient who has received antihypertensive drugs and is undergoing an operation, can be quickly reversed with vasopressor agents provided that the tissue concentrations of electrolytes are within normal limits. However, when hyponatremia and hypokalemia are present, with the associated reduction in tissue concentrations of these electrolytes, the patient frequently will not respond well to vasopressor agents.

Specific Drug Regimen

General Principles of Therapy

The initial step to implementing antihypertensive drug therapy is to develop a regular and stable environment for the patient. In brief, the patient should be "regularized" on a schedule which includes regular hours for both work and play. As far as possible, emotional stimuli of fear and anxiety should be removed from the patient's daily experience through the efforts of the physician and all those concerned with the patient's well-being. This concept has a counterpart in treatment of the diabetic, in that the carbohydrate intake must be kept constant before the dosage of the hypoglycemic drug is adjusted to the needs of the patient.

When drugs are to be given, the initial one to use is an oral diuretic. The response to the diuretic should be evaluated before starting other (sympathetic depressant) drugs, unless blood pressure regulation within a matter of days to weeks is quite urgent. The diuretic is then continued, and after about one month, the sympathetic drugs are added to the regimen. The dosage of the diuretic would be: chlorothiazide (Diuril), 500 mg twice daily for two weeks, and then reduced to 500 mg/day, or equivalent dosage of other thiazide diuretics; or chlorthalidone (Hygroton), 50 mg every other day. In some instances the shorter acting, more potent drugs such as furosemide (Lasix) or ethacrynic acid (Edecrin) in doses that produce an equivalent response may be used, but these are considered second choice and should be used only if the regular, longer acting drugs are contraindicated for one reason or another.

In minimal to moderately severe hypertension, methyldopa (Aldomet) is then tried, starting with 250 mg and increasing by 250 mg (daily dose) each week until the blood pressure is reduced below 150/100 mm Hg. If the blood pressure cannot be adequately controlled with a maximal dose of 2,000 mg of methyldopa per day and it appears that a more potent antihypertensive agent is needed, then guanethidine (Ismelin) might also be required. Guanethidine therapy is initiated by starting with a dose of 12.5 mg given each morning, while continuing the diuretic and methyldopa. The dose of guanethidine should then be increased each week by 12.5 mg daily until the blood pressure taken with the patient standing is regulated below 150/100 mm Hg. It is usually not advisable to give a larger dose of guanethidine than 300 mg daily because of the side effects. When larger doses than this are required, it is better to investigate the possibility of alternate therapeutic approaches.

In treating patients whose diastolic pressure before therapy is constantly in excess of 120 mm Hg, there is frequently little reason for trying the intermediate drug methyldopa; rather, treatment should be started directly with guanethidine after the diuretic, as described above, increasing it until the blood pressure in the standing position is adequately regulated. In these patients, when the orthostatic effect is

excessive after the blood pressure has been reduced with guanethidine plus a diuretic, the dosage of guanethidine may be decreased somewhat and methyldopa administered as a third drug in order to get the maximal antihypertensive effect with the minimal orthostatic effect.

For the patient with minimal to moderately severe hypertension who has been given methyldopa plus guanethidine, it is usually good to back-titrate the dose of methyldopa after about six months to see whether any antihypertensive effect is lost. Frequently in these patients the component of blood pressure reduction attributable to methyldopa is not very great, and it is frequently easier to maintain the patient on a two-drug regimen by gradually reducing the dose of methyldopa and finally withdrawing it completely, perhaps then increasing the dose of guanethidine by a small amount until the blood pressure is adequately regulated.

The reason for giving a diuretic as background therapy for all therapeutic programs is that the diuretic enhances the antihypertensive effect of the sympathetic depressant at a smaller dose and, in addition, prevents the development of tolerance. If the drugs are given in reverse order by administering sympathetic depressants first, the blood pressure may drop excessively when the diuretic is started.

When methyldopa is given, tolerance occurs within six months in well over 50% of the patients, and probably in almost 90% of patients within one year if diuretics are not given concurrently. Therefore, methyldopa should never—or rarely—be given alone for long-term management, but rather should always be given concurrently with a diuretic, if only for that reason. The decrease in the incidence of side effects is also significant, since the dosage of methyldopa and/or guanethidine can be reduced by 40 or 50%, as contrasted with the dosage requirement of these drugs for equivalent effect when given alone.

The choice of a diuretic is not made, in general, solely on the basis of antihypertensive potency, since all of the drugs are about equally potent. Fig 1 shows the results of a comparative study of different diuretics administered under similar circumstances; it is readily evident that these diuretics differ very little in effectiveness. However, the choice of a diuretic may depend on other considerations. For example, it is usually not wise to give ethacrynic acid (Edecrin) or furosemide (Lasix) when a thiazide or chlorthalidone is available. Ethacrynic acid and furosemide, because of their potency, are more likely to produce hypokalemia or a total body sodium deficiency state (reflected as hyponatremia) than are the other diuretics. The very reason for not using these drugs in the routine treatment of hypertension is the same reason why they are such important drugs in the overall management of other conditions: ie, their potency and the fact that they continue to produce natriuresis, kaliuresis, and diuresis even in the presence of electrolyte aberrations when the thiazides and mercurials are no longer effective. Therefore these agents, because of their continued activity, will aggravate electrolyte loss and create a much greater electrolyte abnormality before they lose their effectiveness and ability to act as diuretic (natriuretic) and kaliuretic agents.

It is worth pointing out, however, that skin reactions and other idiosyncratic or side reactions are frequently not observed with ethacrynic acid or furosemide in patients who may have such reactions

when given thiazides, and vice versa. Therefore, should a patient have a skin reaction while taking a thiazide, it is worth a trial of ethacrynic acid or furosemide, since the antihypertensive effect is nearly as great and it is unlikely that the latter drugs will exhibit this side effect.

Preventing Hypokalemia

In treating the patient who becomes hypokalemic, it is worthwhile to administer spironolactone (Aldactone) or triamterene (Dyrenium), which will block the loss of potassium and, at the same time, slightly enhance the natriuretic effect. For patients who tend to lose large amounts of potassium, this is certainly preferable to giving larger amounts of potassium in the diet each day. Once a patient is in a hypokalemic state, it is virtually impossible to continue the diuretic and correct the hypokalemia, since under these circumstances a dosage of 250 or 300 mEq of potassium daily may be required over an extended period in order to correct the deficiency. A dose of 50 mg a day of spironolactone is a much easier and more effective way of blocking potassium loss sufficient to cause hypokalemia.

After the patient is stabilized on the antikaliuretic agent, the intake of potassium must be adjusted as to maintain a normal plasma potassium level. The incidence of development of a potassium deficiency state can be minimized by adding potassium to the diet in the form of orange juice; or, if it does develop, then K-Lyte must be given. Potassium Triplex and various mixtures of potassium salts are also quite effective, but the incidence of nausea is relatively high after continued use. In my experience, nausea occurs less often with K-Lyte than with the liquid mixtures of potassium salts.

Especially in patients with severe heart failure and renal damage, it is very important to monitor the blood level of potassium when giving added potassium in the diet, until the patient is well stabilized. On occasion the level of potassium can rise rapidly in these patients when large amounts are present in the diet and spironolactone or triamterene is given concurrently.

Alternative Therapeutic Programs

The aforementioned therapeutic program is simple and uses a minimal number of therapeutic agents. Generally speaking, it is better for the practicing physician to become well acquainted with a few drugs so that he knows them and their idiosyn-

1. Comparison of blood pressure response in patients with hypertension given various oral diuretics.

Drug	Dose/Day (mg)	No. of Patients	% Response*		% Normotensive†	
			Supine	Upright	Supine	Upright
Chlorothiazide	1,000	50	36	46	18	24
Hydrochlorothiazide	100	54	39	39	20	22
Flumethiazide	1,000	17	41	53	12	47
Chlorthalidone	100-200	30	40	50	17	27
Quinethazine	100-200	29	41	41	17	24
Ethacrynic acid	150-400	15	53	53	7	20

*Mean blood pressure reduced more than 20 mm Hg (including normotensive).
†Normotensive: blood pressure reduced to 140/90 mm Hg or less.

crasies well, rather than to work with a large number of drugs in a less well organized manner. However, other drugs are available and can be used as the therapist thinks indicated.

Reserpine with a Diuretic

The Veterans Administration Study Group[1] has determined that the use of a diuretic (as described earlier) in combination with reserpine or one of the other *Rauwolfia* derivatives has definite antihypertensive value. The diuretic should be started and continued as in the "standard" regimen. The reserpine is then given in relatively small doses of 0.1 mg to 0.25 mg daily. When larger doses of reserpine are used, there tends to be a significant increase in psychic depressive episodes, and therefore larger doses are not recommended. There seems to be very little difference in antihypertensive effectiveness among the various *Rauwolfia* derivatives available. This is a simple therapeutic program to follow for older patients and those with less severe disease. Excessive hypotension rarely occurs with such a program.

In addition to the antihypertensive effect, the *Rauwolfia* drugs do occasionally produce some dulling of cerebration and drowsiness. This is particularly an unwanted side effect when it occurs in executive and professional people, for whom acute judgment makes the difference between success and failure.

Use of this combination of drugs should be limited to patients with mild hypertension and to those who might be erratic in follow-up, since the *Rauwolfia* derivatives are less likely to produce excessive decreases in blood pressure and other acute complications due to hypotensive drugs. By the same token, they are not very effective in severe hypertension.

Diuretic Plus Hydralazine

Hydralazine is not indicated for use as a single drug since tolerance develops rather rapidly. In addition, the incidence of headaches and tachycardia is quite bothersome when it is given alone. Contrariwise, if hydralazine is given in combination with a diuretic and especially as part of a triple drug therapy—ie, diuretic plus reserpine plus a titrated dose of hydralazine each day—a fairly effective program can be developed. This approach requires that the patient be maintained on the standard diuretic and 0.1 mg of reserpine each day for a month initially. Then hydralazine is added, first giving 10 mg with each meal and at bed time. One week later the dose is increased to 25 mg four times a day. If the blood pressure is still not reduced below 150/90 mm Hg after two weeks of therapy, the dose of hydralazine should be increased to 50 mg four times a day, but no more.

Extreme caution must be exercised when using hydralazine in the presence of coronary artery disease, since this is the one drug that (in my experience) has precipitated myocardial infarction as a direct response to the drug.

Hydralazine produces an increased pulse rate and an increase in cardiac output, and if the coronary arteries are diseased, myocardial infarction results in somewhat the same manner as when a dose of epinephrine is given to the patient with coronary artery disease. Hydralazine disease, a syndrome simulating lupus erythymatosus, occasionally may be observed if large doses of the drug are given over an extended period of time.

Pargyline

Pargyline is a monoamine oxidase inhibitor which can be used on occasion in

treating patients who are unresponsive to other drugs, especially if there is any evidence of psychic depression. Although this drug did have promise initially, is is being used with less frequency and probably should not warrant serious consideration because of its potential toxicity.

Clonidine (Catapres)

The exact pharmacodynamic mechanism of this drug is not known. It seems to be similar in action to methyldopa, but sleepiness and dryness of the mouth tend to be more significant as side effects. This drug also should be given in combination with a diuretic. The primary indication for clonidine is relatively severe hypertension that does not respond to other drug programs.

Adrenergic Blocking Agents

Adrenergic blocking agents given in combination with diuretics are significantly more effective than when given alone. The alpha blocking agents—ie, those drugs which block the neuroeffector site of the blood vessel, such as phenoxybenzamine (Dibenzyline)—are relatively ineffective because of the bothersome side effects. This is primarily because tachycardia, especially in the upright position, is associated with the blood pressure reduction.

Beta blocking agents may be more useful in the treatment of hypertension, especially for those patients who have tachycardia and episodic increases in blood pressure. It would appear that in such patients the blood pressure may frequently rise as the result of an acute adrenergic response, the trigger phenomenon being an initial increase in cardiac output. These patients often respond quite well to propranolol (Inderal), either given alone or with other antihypertensive agents. When propranolol is given, it should be started in a dose of 10 mg four times a day and may be increased to as much as 40 mg four times a day. This drug seems to be particularly useful in the treatment of patients who have coronary artery disease and angina in association with hypertension. Not only is the tachycardia better controlled, but the angina seems to be benefited as well, even in the absence of a significant reduction in blood pressure or effect on heart rate. Propranolol should not be used to treat patients with significant respiratory insufficiency since it can aggravate chronic obstructive lung disease.

Summary

If hypertension is treated effectively before vascular damage occurs and before atherosclerosis complicates the disease, mortality and morbidity are greatly decreased. In addition to such general measures as "regularizing" the patient's daily life to minimize stress, drug therapy adjusted to the patient's individual needs can lower the blood pressure to approximately normal limits in most instances. Basically, this consists of a diuretic given in combination with a sympathetic depressant drug. Such drugs may block response to sympathetic nervous system stimuli at the alpha receptors in the blood vessel (alpha blocking agents); they may block the response to such stimuli at the beta receptors in the heart (beta blocking agents); or they may block the release of the catecholamines that cause vasoconstriction and increased heart action. Drugs of the latter type are generally preferable for use in the long-term management of hypertension; among these are guanethidine and reserpine.

Therapy is initiated by giving a thiazide or other diuretic and adding a sympathetic depressant after the patient has become stabilized on the diuretic, about a month later. Usually methyldopa is tried first, increasing the dose each week until the patient is normotensive or nearly so, to a maximum of 2,000 mg. Guanethidine is then added if necessary for further control and the dose may be increased each week to a maximum of 300 mg daily. For patients well controlled on this triple drug regimen, or for those requiring a stronger drug initially, methyldopa may be omitted so that only the diuretic and guanethidine are given.

The use of a diuretic is essential with any of the sympathetic depressant drugs. The diuretic enhances the effectiveness of the drugs so that lower doses can be used and side effects minimized. It also prevents the development of tolerance, especially to methyldopa. Shorter acting drugs such as furosemide and ethacrynic acid are not recommended except for patients who exhibit sensitivity to the thiazides and similar diuretics. Since all of these diuretics tend to cause potassium deficiency when used on a long-term basis, potassium-sparing agents such as triamterene or spironolactone should also be included in the regimen.

Other drugs are available for use when methyldopa and guanethidine, singly or in combination, prove to be unsatisfactory. Among these are reserpine, hydralazine, and adrenergic blocking agents. Among the latter, the beta blocking agents such as propranolol are sometimes useful in the treatment of hypertension associated with coronary artery disease. All of these alternate drugs must be used with care because of their often serious side effects, and a diuretic must be given as in the "standard" regimen.

Reference

1. Veterans Administration Cooperative Study Group: Effects of treatment of morbidity in hypertension: II. Results in patients with diastolic blood pressure averaging 90 through 114 mm Hg. JAMA 213:1143, 1970.

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Mechanical circulatory assistance with intra-aortic balloon

Heart failure is currently the most common cause of death for patients with acute myocardial infarction.[1] Such failure is characterized by either cardiogenic shock or severe, medically refractory, left ventricular heart failure, or both. In some instances recurrent ventricular tachycardia that resists suppression with conventional antiarrhythmic agents also occurs. The mortality for patients with severe heart failure in the setting of acute myocardial infarction is extremely high.

Recently, mechanical circulatory assistance has been used to try to lower the present mortality for patients in cardiogenic shock and with refractory left ventricular failure.[1,2] The most commonly used device to date has been the AVCO intra-aortic balloon pump which inflates and deflates a three-segment balloon with helium. The three-segment design affords maximum displacement of blood with the center segment inflating first, followed by the two end segments (Fig 1). The balloon is made of Avcothane. The catheter and balloon are inserted into the femoral artery by means of an end-to-side graft and subsequently positioned in the descending aorta just distal to the origin of the left subclavian artery, using fluoroscopy. The catheter is connected to a portable console which uses the patient's electrocardiogram (ECG) as a signal to inflate and deflate the balloon; the balloon inflates during cardiac diastole, using the T wave of the ECG as a signal, and deflates just prior to systole using the P wave of the ECG to time this event. Balloon pumping elevates systemic arterial diastolic pressure by virtue of its inflation during diastole; its rapid deflation before systole decreases left ventricular end-diastolic pressure, thus reducing the work of the heart (Fig 2). A number of physiological studies have been done both in patients and in experimental animals, and they have demonstrated that this form of counterpulsation does reduce the work of the heart and myocardial oxygen consumption.[3,4] Most studies, especially those done in animals with hypotension or limited coronary blood flow, have also shown that this circulatory assistance device increases total coronary blood flow.[4] Its physiological effects, then, are those that one theoretically would assume to be beneficial for patients with extensive myocardial infarctions and cardiogenic shock, and/or severe left ventricular failure.

We have evaluated the AVCO intra-aortic balloon in 20 cases of cardiogenic shock and/or severe, medically refractory left ventricular failure (Fig 3). Sixteen of these patients were males and four were females. Their mean age was 54.6 years. All of the patients were hospitalized and cared for at Parkland Memorial Hospital in Dallas. Thirteen of them had either an acute anteroseptal or anterolateral myocardial infarction. Three patients had acute inferior or inferolateral myocardial infarctions. One patient had extensive myocardial disease secondary to severe three-vessel coronary artery disease and several previous myocardial infarctions with refractory left ventricular failure (case 5, Fig 3). Two patients had severe myocardial disease not due to coronary artery obstruction; in one it was idiopathic and in the other probably related to chronic alcoholism (cases 1, 2). The final patient had severe coronary artery disease and medically refractory left ventricular failure (case 18). In all of these cases the intra-aortic balloon was used as soon as it became clear that pressor agents for the patients in cardiogenic shock, and digitalis, salt restriction, and diuretics for those in severe

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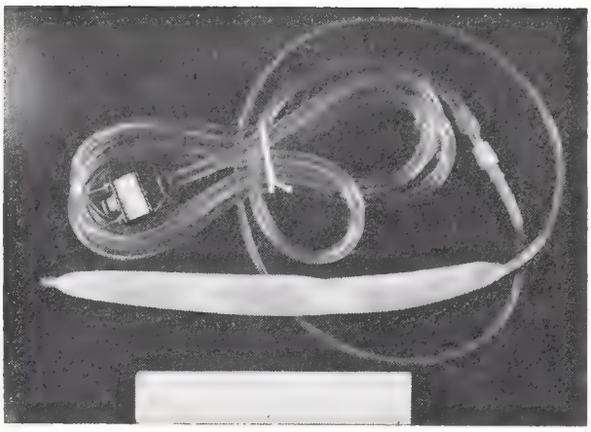
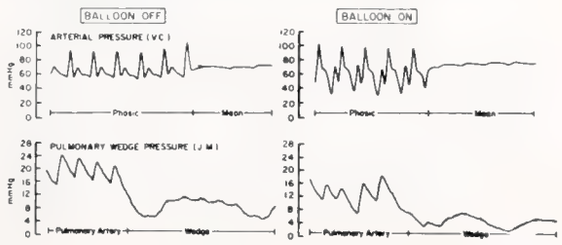
congestive heart failure were not successful. In each of these patients pulmonary capillary wedge pressures and systemic arterial pressures were measured and abnormalities of left ventricular filling pressure were corrected insofar as was possible before starting the balloon support.

Utilizing the AVCO intra-aortic balloon system, we were able to restore adequate systemic blood pressures, and/or to adequately control previously refractory left ventricular failure in 17 of the 20 patients. It was possible to wean 6 of the 20 patients from balloon support without future recurrence of either shock or severe heart failure. Two of these patients were discharged from the hospital, and both are alive and asymptomatic 18 and 10 months following their myocardial infarctions. The other four patients died from one week to 18 days following the discontinuation of balloon support. One died of pneumonia; one of neurological complications; one of the sudden and unexpected development of complete heart block one day prior to his anticipated discharge; and one of recurrent and refractory ventricular tachycardia that developed nine days following her myocardial infarction. However, the remaining 13 patients with cardiogenic shock and/or severe left ventricular failure were "balloon dependent"; that is, there was a recurrence of either shock or severe left ventricular failure when the counterpulsation device was temporarily discontinued. It was possible to save and subsequently discharge one of these patients by resecting a small ventricular aneurysm and performing a right coronary artery bypass graft. This patient had been balloon-dependent before the surgical procedure primarily because of severe medically refractory left ventricular failure. Following cardiac catheterization that demonstrated



1. The three-segment balloon and catheter system used in these aortic counterpulsation studies.

2. Top: The systemic arterial pressure tracing from one of the patients in this study is shown on the left. On the right, the changes produced in the systemic arterial pressure tracing by aortic counterpulsation are shown. Note that the diastolic blood pressure is augmented by counterpulsation and the systolic pressure is lowered. Mean arterial pressure rose slightly with the aortic counterpulsation. Bottom: Pulmonary artery and pulmonary capillary wedge pressure without aortic counterpulsation are shown on the left. Aortic counterpulsation reduced both the pulmonary artery and pulmonary capillary wedge pressure as is shown on the right.



3. Patients in cardiogenic shock or severe left ventricular failure treated with aortic counterpulsation.

Case	Age	Sex	Diagnosis	Period of Balloon Support	Ultimate Outcome
1	58	M	Cardiogenic shock; myocardial disease	65 hours	Weaned from balloon support; died of pneumonia 7 days after balloon removed
2	45	M	Cardiogenic shock; alcoholism	56 hours	Weaned from balloon support; died of neurological complications 7 days after balloon removed
3	71	F	Cardiogenic shock; acute inferior myocardial infarction	21 hours	Died on balloon support
4	62	M	Cardiogenic shock; recurrent ventricular and supraventricular tachycardia; acute anterior myocardial infarction	29 hours	Died on balloon support; acute anteroseptal myocardial infarction
5	43	M	Severe refractory left ventricular failure; coronary artery disease	9 days	Discharged from hospital; returned 2 months later with stone in common bile duct and died
6	45	M	Cardiogenic shock; acute inferior myocardial infarction	6 days	Discharged and alive 14 months later
7	57	M	Cardiogenic shock; acute anteroseptal myocardial infarction	10 days	Weaned from balloon but died one day prior to hospital discharge of cardiac asystole
8	51	M	Cardiogenic shock; acute anterior myocardial infarction	2 hours	Died on balloon support
9	61	M	Cardiogenic shock; recurrent ventricular tachycardia; acute anterolateral myocardial infarction	24 hours	Died on balloon support
10	50	M	Acute anterior myocardial infarction; refractory ventricular tachycardia	2 days	Died postoperatively of low cardiac output
11	45	M	Acute anterior myocardial infarction; cardiogenic shock	3 days	Died on balloon support postoperatively of low cardiac output
12	62	M	Acute anteroseptal myocardial infarction; cardiogenic shock	3 days	Died on balloon support
13	56	M	Acute anterolateral myocardial infarction; cardiogenic shock	4 hours	Died on balloon support
14	57	M	Acute inferior myocardial infarction; cardiogenic shock	4 days	Discharged and alive 6 months after discharge
15	57	F	Acute anteroseptal myocardial infarction; cardiogenic shock; recurrent ventricular tachycardia	9 days	Weaned from balloon but died postoperatively of recurrent ventricular tachycardia
16	53	F	Acute anteroseptal myocardial infarction; cardiogenic shock; refractory ventricular tachycardia	5 days	Died on balloon support of refractory ventricular tachycardia
17	44	F	Severe refractory left ventricular failure; acute anterolateral myocardial infarction	8 days	Died on balloon support with ventricular tachycardia
18	49	M	Cardiogenic shock; severe refractory left ventricular failure	4 days	Died on balloon support
19	44	M	Acute anteroseptal myocardial infarction; severe refractory left ventricular failure; recurrent ventricular tachycardia	2 days	Died on balloon support of refractory ventricular tachycardia
20	45	M	Acute anteroseptal myocardial infarction; refractory ventricular tachycardia	2 hours	Died on balloon support of refractory ventricular tachycardia

that infarctectomy and/or bypass graft surgery might be helpful, four other balloon-dependent patients underwent cardiac surgery during the acute phase of their myocardial infarctions. Common cardiac catheterization findings in these patients were a completely occluded left anterior descending coronary artery, severe obstruction of either the right and/or the circumflex coronary artery, diffusely hypokinetic anterolateral left ventricular wall, and ejection fractions of 30% or less. These four patients died following cardiac surgery. The remaining seven patients, who were balloon-dependent but not operated on, had inoperable coronary artery and/or myocardial disease, and they subsequently died while on balloon support. The one patient (case 20) in whom the intra-aortic balloon was inserted to help control refractory ventricular tachycardia died without any significant diminution in the frequency of his recurrent ventricular tachycardia following the onset of counterpulsation.

Our experience with intra-aortic balloon counterpulsation is similar to that reported by others.[1,5] In previous studies, the relatively long-term survival rate for patients in cardiogenic shock was 15-20% when intra-aortic balloon counterpulsation was used alone, although the shock was initially reversed in the majority of the patients in whom this form of circulatory assistance was employed. Our in-hospital survival rate for these patients using balloon support alone was 10%. Two of the three patients that survived initially have been out of the hospital 18 and 10 months, respectively, and are presently asymptomatic. It is of interest that both of these patients had inferior myocardial infarctions. The third was supported successfully with the balloon and was operated on for refractory left ventricular failure. He returned to the hospital six weeks following discharge with abdominal pain and hypotension. He died subsequently and postmortem examination revealed a stone in his common bile duct and a dilated gallbladder. His right coronary artery bypass graft was patent, and there was no new area of myocardial injury. In our group of patients it was almost always possible to reverse cardiogenic shock initially and/or to stabilize severe left ventricular failure more satisfactorily. Others have found that an additional 20% of patients that are balloon-dependent can be salvaged by cardiac surgery with coronary artery bypass grafts and/or infarctectomy or ventricular aneurysm resection.[1,6,7] Our results, although they include only five patients that have been operated on, tend to support the 20% additional survival rate as one of our five patients survived to leave the hospital. However, many balloon-dependent patients are either inoperable as the result of diffuse severe coronary artery disease, or because of diffusely hypokinetic, poorly functioning left ventricles without any localized area that lends itself to resection.

On the basis of our experience and that of others, several conclusions regarding the use of intra-aortic balloon counterpulsation for patients in cardiogenic shock and/or severe refractory left ventricular failure seem to be justified. First, this form of circulatory assistance does reverse the shock and help to control refractory left ventricular failure in patients with extensive acute myocardial infarctions. Second, some patients can be salvaged if this device is utilized, while an additional relatively small number can be saved by combining intra-aortic counterpulsation with coronary artery revascularization and/or

infarctectomy. Finally, there yet remains a large group of patients with such extensive myocardial disease resulting from myocardial infarction that nothing short of total cardiac replacement or permanent cardiac assistance will suffice to save their lives.

References

1. Sanders CA, Buckley MJ, Leinbach RC, et al: Mechanical circulatory assistance: current status and experience with combining circulatory assistance, emergency coronary angiography, and acute myocardial revascularization. Circulation 45:1292-1313, 1972.

2. Kantrowitz A, Tjonneland S, Freed PS, et al: Initial clinical experience with intraaortic balloon pumping in cardiogenic shock. JAMA 203:113-118; 1968.

3. Mueller H, Ayres SM, Giannelli S Jr, et al: Effect of isoproterenol, l-norepinephrine, and intraaortic counterpulsation on hemodynamics and myocardial metabolism in shock following acute myocardial infarction. Circulation 45:335-351, 1972.

4. Powell WJ Jr, Daggett WM, Magro AE, et al: Effects of intra-aortic balloon counterpulsation of cardiac performance, oxygen consumption, and coronary blood flow in dogs. Circ Res 26:753-764, 1970.

5. Scheidt S, Wilner G, Mueller H, et al: Intra-aortic balloon counterpulsation in cardiogenic shock; report of a co-operative clinical trial. New Engl J Med 288:979-984, 1973.

6. Mundth ED, Buckley MJ, Leinbach RC, et al: Myocardial revascularization for the treatment of cardiogenic shock complicating acute myocardial infarction. Surgery 70:78-87, 1971.

7. Mundth ED, Yurchak PM, Buckley MJ, et al: Circulatory assistance and emergency direct coronary-artery surgery for shock complicating acute myocardial infarction. New Engl J Med 283:1382-1384, 1970.

The authors, Pauline and Adolph Weinberger Laboratory for Cardiopulmonary Research of the Department of Internal Medicine, the Department of Radiology, and the Department of Surgery, The University of Texas Southwestern Medical School at Dallas, Texas 75235.

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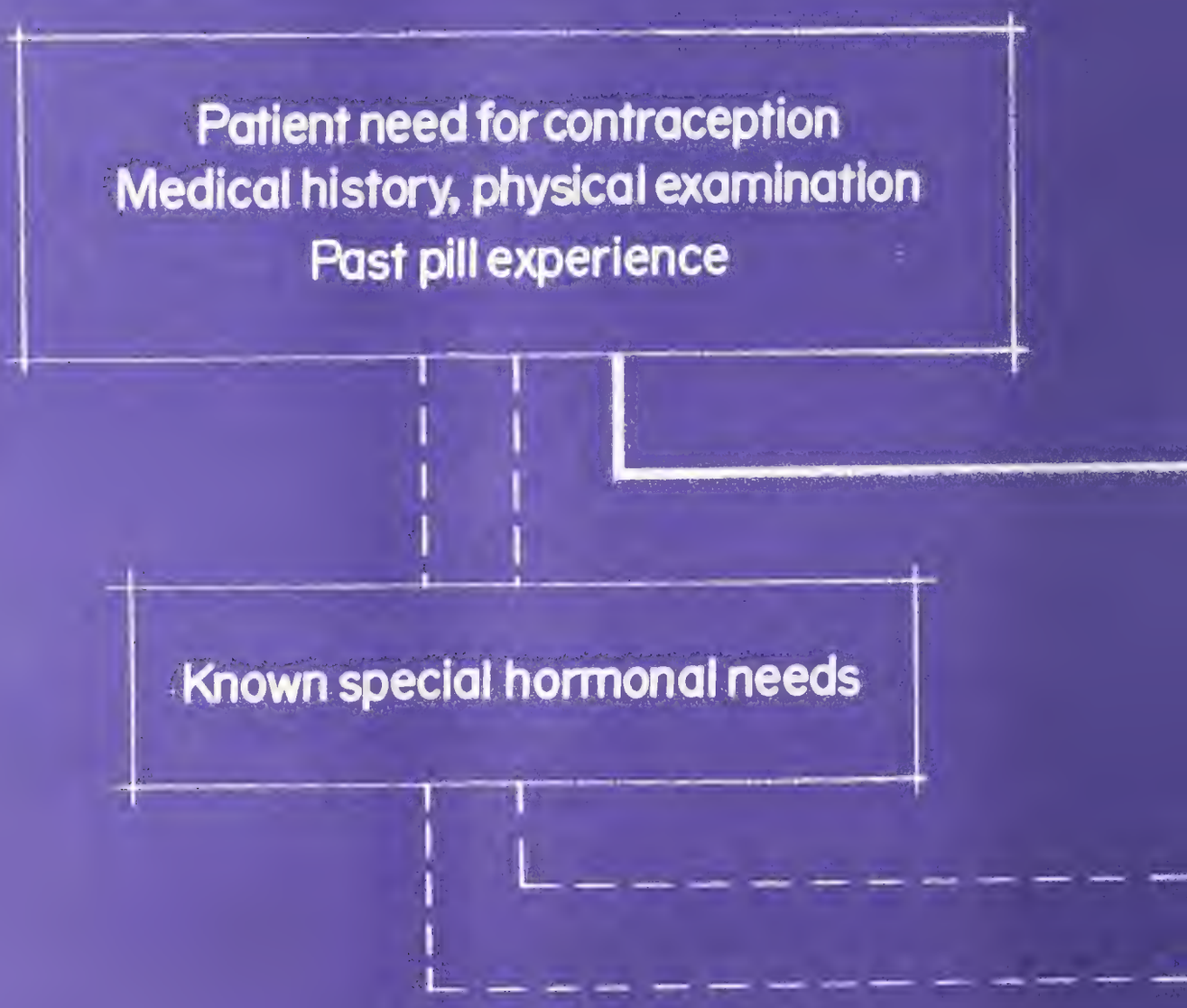

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Special note—Oral contraceptives have been marketed in the United States since 1960. Reported pregnancy rates vary from product to product. The effectiveness of the sequential products appears to be somewhat lower than that of the combination products. Both types provide almost completely effective contraception.

An increased risk of thromboembolic disease associated with the use of hormonal contraceptives has now been shown in studies conducted in both Great Britain and the United States. Other risks, such as those of elevated blood pressure, liver disease and reduced tolerance to carbohydrates, have not been quantitated with precision.

Long-term administration of both natural and synthetic estrogens in subprimate animal species in multiples of the human dose increases the frequency of some animal carcinomas. These data cannot be transposed directly to man. The possible carcinogenicity due to the estrogens can be neither affirmed nor refuted at this time. Close clinical surveillance of all women taking oral contraceptives must be continued.

Indication—Ovulen and Demulen are indicated for oral contraception.

Contraindications—Patients with thrombophlebitis, thromboembolic disorders, cerebral apoplexy or a past history of these conditions, markedly impaired liver function, known or suspected carcinoma of the breast, known or suspected estrogen-dependent neoplasia and undiagnosed abnormal genital bleeding.

Warnings—The physician should be alert to the earliest manifestations of thrombotic disorders (thrombophlebitis, cerebrovascular disorders, pulmonary embolism and retinal thrombosis). Should any of these occur or be suspected the drug should be discontinued immediately.

Retrospective studies of morbidity and mortality conducted in Great Britain and studies of morbidity in the United States have shown a statistically significant association between thrombophlebitis, pulmonary embolism, and cerebral thrombosis and embolism and the use of oral contraceptives. There have been three principal studies in Britain[1-3] leading to this conclusion, and one[4] in the United States. The estimate of the relative risk of thromboembolism in the study by Vessey and Doll[3] was about sevenfold, while Sartwell and associates[4] in the United States found a relative risk of 4.4, meaning that the users are several times as likely to undergo thromboembolic disease without evident cause as nonusers. The American study also indicated that the risk did not persist after discontinuation of administration and that it was not enhanced by long-continued administration. The American study was not designed to evaluate a difference between products. However, the study suggested that there might be an increased risk of thromboembolic disease in users of sequential products. This risk cannot be quantitated, and further studies to confirm this finding are desirable.

Discontinue medication pending examination if there is sudden partial or complete loss of vision, or if there is a sudden onset of proptosis, diplopia or migraine. If examination reveals papilledema or retinal vascular lesions medication should be withdrawn.

Since the safety of Ovulen and Demulen in pregnancy has not been demonstrated, it is recommended that for any patient who has missed two consecutive periods pregnancy should be ruled out before continuing the contraceptive regimen. If the patient has not adhered to the prescribed schedule the possibility of pregnancy should be considered at the time of the first missed period.

A small fraction of the hormonal agents in oral contraceptives has been identified in the milk of mothers receiving these drugs. The long-range effect to the nursing infant cannot be determined at this time.

Precautions—The pretreatment and periodic physical examinations should include special reference to the breasts and pelvic organs, including a Papanicolaou smear since estrogens have been known to produce tumors, some of them malignant, in five species of subprimate animals. Endocrine and possibly liver function tests may be affected by treatment with Ovulen or Demulen. Therefore, if such tests are abnormal in a patient taking Ovulen or Demulen, it is recommended that they be repeated after the drug has been withdrawn for two months. Under the influence of progestogen-estrogen preparations preexisting uterine fibromyomas may increase in size. Because these agents may cause some degree of fluid retention, conditions which might be influenced by this factor, such as epilepsy, migraine, asthma, cardiac or renal dysfunction, require careful observation. In breakthrough bleeding, and in all cases of irregular bleeding per vaginam, nonfunctional causes should be borne in mind. In undiagnosed bleeding per vaginam adequate diagnostic measures are indicated. Patients with a history of psychic depression should be carefully observed and the drug discontinued if the depression recurs to a serious degree. Any possible influence of prolonged Ovulen or Demulen therapy on pituitary, ovarian, adrenal, hepatic or uterine function awaits further study. A decrease in glucose tolerance has been observed in a significant percentage of patients on oral contraceptives. The mechanism of this decrease is obscure. For this reason, diabetic patients should be carefully observed while receiving Ovulen or Demulen therapy. The age of the patient constitutes no absolute limiting factor, although treatment with Ovulen or Demulen may mask the onset of the climacteric. The pathologist should be advised of Ovulen or Demulen therapy when relevant specimens are submitted. Susceptible women may experience an increase in blood pressure following administration of contraceptive steroids.

Adverse reactions observed in patients receiving oral contraceptives—A statistically significant association has been demonstrated between use of oral contraceptives and the following serious adverse reactions: thrombophlebitis, pulmonary embolism and cerebral thrombosis.

Although available evidence is suggestive of an association, such a relationship has been neither confirmed nor refuted for the following serious adverse reactions: neuro-ocular lesions, e.g., retinal thrombosis and optic neuritis.

The following adverse reactions are known to occur in patients receiving oral contraceptives: nausea, vomiting, gastrointestinal symptoms (such as abdominal cramps and bloating), breakthrough bleeding, spotting, change in menstrual flow, amenorrhea during and after treatment, edema, chloasma or melasma, breast changes (tenderness, enlargement and secretion), change in weight (increase or decrease), changes in cervical erosion and cervical secretions, suppression of lactation when given immediately post partum, cholestatic jaundice, migraine, rash (allergic), rise in blood pressure in susceptible individuals and mental depression.

Although the following adverse reactions have been reported in users of oral contraceptives, an association has been neither confirmed nor refuted: anovulation post treatment, premenstrual-like syndrome, changes in libido, changes in appetite, cystitis-like syndrome, headache, nervousness, dizziness, fatigue, backache, hirsutism, loss of scalp hair, erythema multiforme, erythema nodosum, hemorrhagic eruption and itching.

The following laboratory results may be altered by the use of oral contraceptives: hepatic function: increased sulfobromophthalein retention and other tests; coagulation tests: increase in prothrombin, Factors VII, VIII, IX and X; thyroid function: increase in PBI and butanol extractable protein bound iodine, and decrease in T^3 uptake values; metyrapone test and pregnanediol determination.

References: 1. Royal College of General Practitioners: Oral Contraception and Thrombo-Embolic Disease, J. Coll. Gen. Pract. *13*:267-279 (May) 1967. **2.** Inman, W. H. W., and Vessey, M. P.: Investigation of Deaths from Pulmonary, Coronary, and Cerebral Thrombosis and Embolism in Women of Child-Bearing Age, Brit. Med. J. *2*:193-199 (April 27) 1968. **3.** Vessey, M. P., and Doll, R.: Investigation of Relation Between Use of Oral Contraceptives and Thromboembolic Disease. A Further Report, Brit. Med. J. 2:651-657 (June 14) 1969. **4.** Sartwell, P. E.; Masi, A. T.; Arthes, F. G.; Greene, G. R., and Smith, H. E.: Thromboembolism and Oral Contraceptives: An Epidemiologic Case-Control Study, Amer. J. Epidem. *90*:365-380 (Nov.) 1969.

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The *Special Note, Contraindications, Warnings, Precautions* and *Adverse Reactions* listed above for Ovulen and Demulen are applicable to Enovid-E and should be observed when prescribing Enovid-E.

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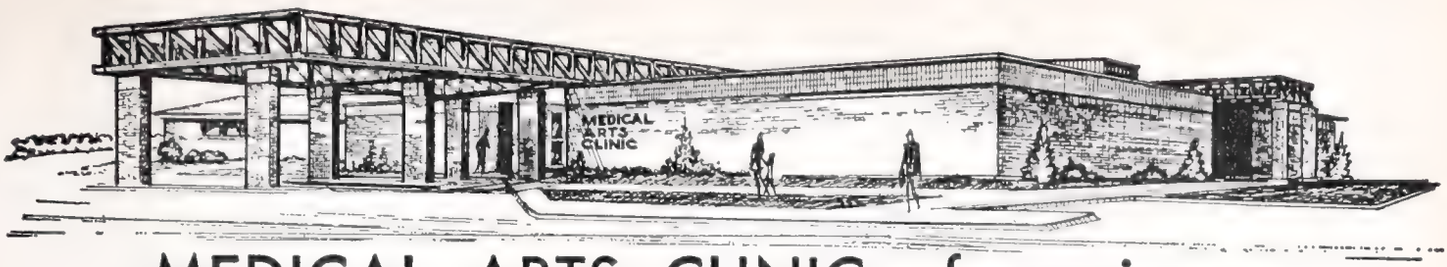

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Classically, anticoagulation measures have been directed against fibrin formation. Recent information suggests that this approach is not physiologic, and that alternative methods may be more effective.

In an arterial thrombus, the major component and initiating factor is the platelet head with the fibrin tail making a small contribution. In the venous system, the platelet head is quite small where the thrombus is attached to the vessel wall; the much larger tail streams away in the direction of the blood flow. Thus, in the arterial system the thrombus is mostly platelet, while in the venous system the thrombus is mostly fibrin. The importance of the initiating platelet nidus is not yet defined, but may be quite important.

In vivo when a vessel is injured, the initial event is adhesion of platelets to the damaged surface. More platelets then build up to form the platelet plug. Fibrin strands solidify the platelets.

Other factors that favor platelet adhesion and aggregation are adenosine diphosphate (ADP) released from damaged tissue, exposed collagen, platelet released ADP (second wave), and thrombin (favors platelet aggregation). Attack at any of these areas will impede thrombus formation.

In vivo thrombus formation is initiated by platelet aggregation rather than fibrin deposition. ADP plays a significant role. With this concept, it appears that anticoagulation might be directed toward the platelet rather than toward fibrin formation.

It has been appreciated for several years that acetylsalicylic acid (ASA) or aspirin has a profound effect on the human platelet. As little as 300 mg of ASA (one tablet) per day will consistently prolong the bleeding time in man. The effect of aspirin is secondary to alteration of platelet kinetics and platelet interaction.

There are several known effects of ASA on platelets: (1) It prevents adhesion of platelets to connective tissue-collagen. (2) It prevents release of platelet ADP (second wave aggregation) when exposed to epinephrine and ADP. (3) The duration of action may be several days. (4) It inhibits platelet factor III release. (5) It prolongs bleeding time in man. (6) It inhibits thrombin-induced platelet aggregation.

Dipyridamole (Persantine) has an adverse effect on platelet aggregation. The effect of dipyridamole is also thought to be related to interference with platelet ADP action, and therefore, platelet plug formation. This mechanism is not the same as that of ASA, but is thought to be related to blockage of adenosine membrane passage.

Platelet and fibrinogen kinetics have been well studied in patients with artificial valves.[1] Platelet survival is significantly shortened because of destruction and consumption of the prosthesis. A direct relationship is found between platelet destruction (consumption) and the amount of nonendothelialized surface (valve surface areas).

It is concluded that platelets are selectively consumed on the prosthetic surface in the formation of thrombotic material. This presumably leads to embolization. Fibrinogen consumption is unchanged.

Persantine in a dosage of 400 mg/day will prevent platelet consumption. Smaller doses will have lesser effect. Theoretically then, Persantine will prevent valve

platelet thrombus formation and subsequent embolization.

For unexplainable reasons, ASA, 3 gm/day, did not improve platelet survival (consumption) although the other physiologic effects of ASA were demonstrated. Aspirin in a lower dosage, 1 gm/day, combined with an ineffective dose of Persantine (100 mg) produced the same effect as 400 mg of dipyridamole.

There is, then, a synergistic effect of the two drugs acting through mechanisms that are not yet clearly defined.

Gorlin studied 163 patients with cardiac prosthetic valves.[2] Of these, 79 patients were treated with Coumadin and Persantine (400 mg). The 84 controls received only Coumadin and placebo. There were 1.3% embolic episodes in the group treated with Persantine. In the Coumadin-placebo group, cerebral emboli developed in 11 patients (14.3%). There was no significant increase in side effects. Gorlin et al concluded that the addition of Persantine to the postoperative anticoagulation regimen significantly reduces the usual thromboembolic complications.

Salzman compared the effects of prophylactic dipyridamole, aspirin, dextran and warfarin in 169 patients undergoing vitallium-mold hip arthroplasty.[3]

The dosage schedules were: warfarin, with an end point of 1.5-2.0 prothrombin time control; Persantine, 400 mg/day; ASA, 1.2 gm/day; and dextran (molecular weight 40,000) 500 ml of 10% solution/day for four days, then every three days.

The thromboembolic complications in the four groups indicated that aspirin, Coumadin, and dextran were equal in preventing postoperative thrombosis and embolism (9%). Dipyridamole was not efficacious (18%). Bleeding complications were comparable.

Conclusion

Data have been presented to show that platelets play a crucial role in arterial thrombus formation on nonendothelialized surfaces. Acetylsalicylic acid and dipyridamole interfere with platelet action. Clinical studies, at least with dipyridamole, support the usefulness of these agents in reducing postoperative thromboembolic complications.

References

1. Harker LH, Slecter SJ: Studies of platelet and fibrinogen kinetics in patients with prosthetic heart valves. New Eng J Med 283:1302-1305, 1970.

2. Sullivan JM, Harken DE, Gorlin R: Pharmacologic control of thromboembolic complication of cardiac valve replacement. New Eng J Med 284:1391-1394, 1971.

3. Salzman EW, Harris WH, De Santes RW: Reduction in venous thromboembolism by agents affecting platelet function. New Eng J Med 284:1287-1292, 1971.

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Combined coronary endarterectomy and saphenous vein bypass graft

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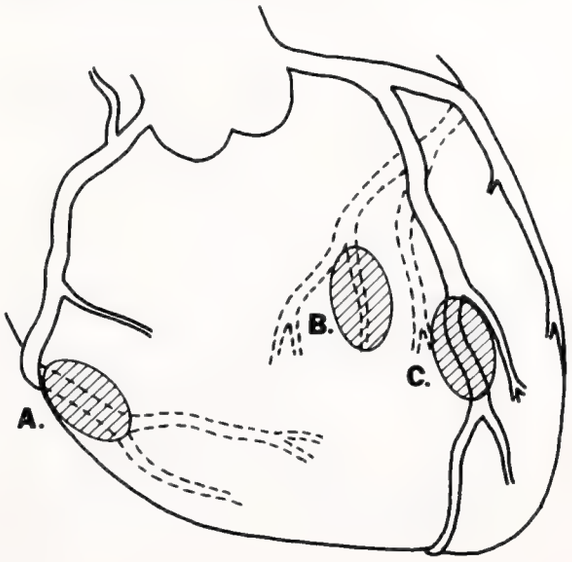
Coronary endarterectomy alone or in combination with vein patch angioplasty was used with limited success during the early efforts to accomplish direct revascularization of the ischemic myocardium.[1-5] The long-term patency rate of coronary arteries so treated proved to be low, however, and these operative procedures soon were discarded.

With the advent of aortocoronary bypass graft in the treatment of coronary artery occlusive disease,[6-10] it soon was realized that a number of patients had occluded coronary arteries at the optimum site for implantation of the vein graft. These patients benefited from a combined coronary endarterectomy and vein bypass graft anastomosed to the artery at the site of endarterectomy. This report reviews the immediate and long-term results obtained in a series of 315 patients at the Texas Heart Institute who underwent the combined procedure for treatment of coronary artery occlusive disease.

Technical Considerations

The surgical technique, previously described,[11] consists of performing a coronary endarterectomy in conjunction with vein bypass graft in patients whose coronary arteries are found to be totally occluded at the "site of election." We have found the most optimum positions for distal anastomoses, in regard to length and situation of the graft and size of the artery, to be constant sites of election located on the right coronary artery (RCA) immediately proximal to the bifurcation into the posterior descending and the terminal branch of the right, in the left anterior descending artery (LAD) about one-third the distance from the apex of the heart to the atrial ventricular groove, and in a major side branch of the circumflex, usually the obtuse marginal artery near its origin from the parent vessel (Fig 1). Endarterectomy is performed by dissecting the plaque from the adventitia using fine forceps, scissors, and gentle traction on the plaque beginning at the chosen anastomotic site and removing the proximal occlusion as well as the distal extension and its branches. It has been observed that the distal plaque is easily and completely removed from the vessel leaving the adventitia intact (Fig 2). In our

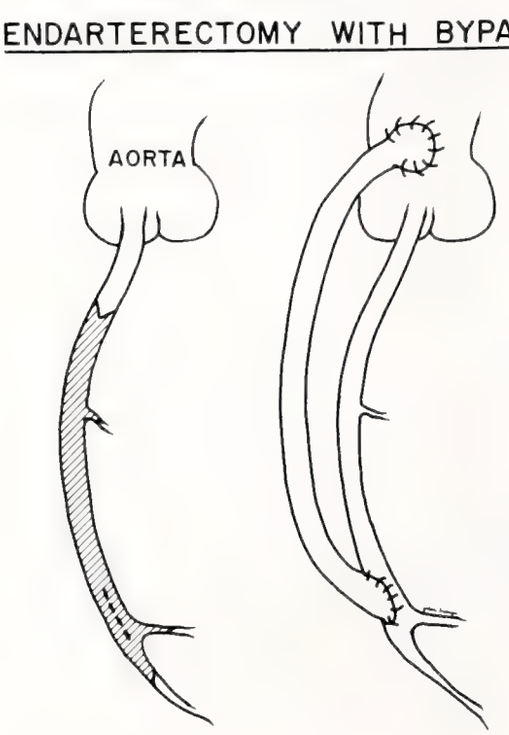
1. Drawing of coronary circulation shows "sites of election" (shaded areas) where optimum anastomosis can be performed. The sites are for the (A) right coronary artery, (B) the circumflex, and (C) the left anterior descending. (Reprinted with permission from Cooley DA, Hallman GL, Wukasch DC: Myocardial revascularization using combined endarterectomy and vein bypass autograft: Technique and results. Int Surg 56:373-380, 1971.[11])



hospital, this technique has been applied successfully in all five coronary vessels frequently bypassed, including the RCA, LAD, circumflex coronary arteries (Cx), diagonal branch of the LAD, and obtuse marginal branch of the Cx. In each patient a saphenous vein bypass graft was anastomosed to the site of arteriotomy. An important principle is that if a coronary artery is opened, a vein bypass graft is required to cover the arteriotomy.

Total cardiopulmonary bypass was used in all patients. Normothermic conditions are preferred in the absence of significant left ventricular hypertrophy, and moderate hypothermia (30 C) was employed when there was significant left ventricular impairment or hypertrophy, usually resulting from concomitant aortic valve stenosis. Ischemic cardiac arrest was achieved by cross clamping the ascending aorta during the entire procedure.[12] The average time of ischemic cardiac arrest was 20 minutes for single bypass grafts, 35 minutes for double bypass, and 60 minutes for triple bypass. The longest ischemic time for one patient was 97 minutes.

2. Drawing shows the method of right coronary endarterectomy with saphenous vein bypass graft. One arteriotomy is made at one of the sites of election in the coronary arteries and the bypass is attached at that position. (Reprinted with permission from Cooley DA, Hallman GL, Wukasch DC: Myocardial revascularization using combined endarterectomy and vein bypass autograft: Technique and results. Int Surg 56:373-380, 1971.[11])



Material

Of 1,059 patients who underwent coronary artery bypass graft procedures at this institution from Oct 15, 1969, through Dec 31, 1971, 315 patients (30%) required endarterectomy because of occluded arteries or extensive plaque areas at the site of election. A total of 632 saphenous vein grafts were implanted in the 315 patients. Coronary endarterectomy in conjunction with vein bypass graft was performed in 347 instances.

The ages of patients ranged from 34 to 72 years with the majority between 50 and 60 years (Fig 3). The male-to-female ratio was ten to one (291 males and 24 females).

Angina pectoris was the dominant symptom in 96% of the patients and intractable angina in 7%. In the series, 63% had experienced one or more documented myocardial infarctions and 26% had symptoms of congestive heart failure (Fig 4). Ninety percent of patients were in classes III or IV according to the New York Heart Association functional classifications (Fig 5).

Significant associated disease was present in 162 patients. Among the series, 16% had hypertension, 9% had peripher-

al vascular disease, 8% had akinetic areas of the left ventricle, 8% had diabetes mellitus, 6% had aneurysms, and 4% had significant aortic or mitral valve disease (Fig 6).

Left ventricular end-diastolic pressure was measured in 191 patients and found to be normal (less than 10 mm Hg) in 36%, mildly elevated (between 11 and 19 mm Hg) in 35%, and above 20 mm Hg in 29% (Fig 7).

Electrocardiographic findings showed evidence of myocardial infarction in 73% of the patients, ischemia in 34%, conduction defects in 16%, no abnormality in 4%, and arrhythmias in 3% (Fig 8).

Previous revascularization procedures had been performed in 12 patients (4%) —3 patients had had single vein bypass grafts to the RCA, and 9 had undergone internal mammary artery implantations.

Using the Ross and Friesinger classification,[13] selective coronary arteriography demonstrated complete occlusion of the RCA in 56% of the patients and 90 to 99% occlusion of the same vessel in 21%. The LAD coronary artery was found to be 100% occluded in only 22%, and 90 to 99% occluded in 28%. The Cx coronary artery was totally occluded in 24% and 90 to 99% obstructed in 15% of the patients. The remaining distribution of coronary artery occlusive disease is shown in Fig 9.

Results

Of the 315 patients who underwent combined coronary endarterectomy and vein bypass graft procedures, 239 had double bypass grafts with either single or double endarterectomy; 37 had a single endarterectomy and bypass; and 39 had a triple

Age	No. Patients	%
29-39	16	5
40-49	84	27
50-59	148	47
60-69	60	19
70-79	7	2

3. Age ranges of 315 patients.

	No. Patients	%
Angina	301	96
Intractable angina	21	7
Congestive heart failure	82	26
Myocardial infarction	199	63

4. Symptoms in 315 patients.

Class	No. Patients	%
I	7	2
II	24	8
III	232	74
IV	52	16
Total	315	100

5. New York Heart Association functional classifications.

	No. Patients	%
Ventricular aneurysm	20	6
Ventricular akinesia	25	8
Valvular disease	14	4
Diabetes	26	8
Hypertension	50	16
Peripheral vascular disease	27	9

6. Associated disease in 315 patients.

7. Left ventricular end diastolic pressure in 191 patients.

	No. Patients	%
Less than 10 mm Hg	69	36
11-19 mm Hg	67	35
More than 20 mm Hg	55	29

No measurement was taken in 124 (39%) of the 315 patients in this series.

bypass with either single, double or triple endarterectomy (Figs 10-12). Of the 347 endarterectomies, 282 were performed on the RCA, 44 on the LAD, 16 on the Cx, 4 on the obtuse marginal branch, and 1 on the diagonal branch of the left coronary artery.

Eighteen patients (6%) underwent either resection or plication of a left ventricular aneurysm, 13 patients (4%) had valve replacement, and 1 patient (0.3%) had closure of an atrial septal defect in addition to combined coronary endarterectomy and vein bypass graft.

Complications

Thirty-three patients experienced operative complication, and 10 of these died (3.2% of the total series)—4 as a result of acute myocardial infarction, 4 of low cardiac output, and 2 of ischemic myocardial contracture or "stone heart."[14] Nonfatal operative complications included atrial, nodal, or ventricular arrhythmias in 20 patients; surgical reexploration because of postoperative bleeding in 6 patients; and low cardiac output in 5 patients who responded to cardiogenic medication.

A total of 249 patients had no postoperative complications, and the remaining 66 patients had 71 complications. Twenty patients (7%) died of complications; 18 (6%) had low cardiac output and 16 (5%) had myocardial infarctions.

Mortality

Of the 315 patients who underwent combined operation for endarterectomy and vein bypass graft, the total hospital mortality was 9.6% (30 patients); there were 10 operative deaths (3.2%), 15 immediate (zero to five days following operation) deaths (4.8%), and 5 hospital (five days following operation until dismissal) deaths (1.6%). The late mortality rate during a follow-up period of from 3 to 24 months was 3.6%, and included 11 patients who died from 16 days to nine months following operation (Fig 13).

	No. Patients	%
Normal	14	4
Myocardial infarction	230	73
Conduction defect	49	16
Ischemia	106	34
Arrhythmia	8	3

8. Electrocardiographic findings in 315 patients.

9. Distribution of disease according to arteriographic findings.

Degree of Occlusion	RCA		LAD		Cx		OM		Diagonal		L. Main	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Normal	5	2	31	10	105	33	250	79	242	77	266	84
1 - 49%	3	1	8	3	16	5	3	1	7	2	9	3
50 - 89% (single)	14	4	64	20	64	20	15	5	24	8	30	10
50 - 89% (multiple)	49	16	53	17	44	14	13	4	13	4		
90 - 99%	66	21	89	28	46	15	10	3	14	4	10	3
100%	178	56	70	22	13	24	8	8	15	5		
Total	315	100	315	100	315	100	315	100	315	100	315	100

RCA: Right coronary artery
LAD: Left anterior descending
Cx: Circumflex
OM: Obtuse marginal
L. Main: Left main

Cause of Death

Myocardial infarction, the most frequent cause of death, occurred in 24 patients (59% of deaths). Congestive heart failure caused death in 7 patients (17% of deaths). Multiple contributing causes of death could be identified in 3 patients.

Autopsy Findings

Of 41 deaths, 22 autopsies were performed. The average weight of the hearts was 619 gm. Areas of old myocardial infarction and fibroses were found in all the patients, and 13 (59%) had evidence of acute infarction at the time of autopsy. A total of 48 vein grafts were examined: 44 (92%) were patent and 4 (8%) were occluded. Of the 45 patent grafts, 16 were RCA bypasses with endarterectomy, and 3 were RCA bypasses without endarterectomy. Of the 4 (8%) occluded grafts, 3 were anastomosed to the RCA in conjunction with endarterectomy, and 1 to the Cx without endarterectomy (Fig 14).

Long-Term Follow-Up

Follow-up study of from 3 to 24 months included evaluation of 240 patients (88%), excluding 41 deaths. Thirty-four patients were lost to follow-up (Fig 15).

The most common symptom, angina, was either completely relieved or decreased in 88% of the patients, unchanged in 8%, and became worse in 2.1%. No preoperative angina was present in 1.7% of patients. Symptoms of congestive heart failure were relieved or decreased in 25% and unchanged in 8%. Sixty-seven percent of the patients did not have congestive heart failure preoperatively.

Seventy-five percent of the patients fol-

Type of Operation	No. Patients	%
RCA end	36	11
LAD end	1	0.3

end: Endarterectomy

10. Single bypass with endarterectomy.

	No. Patients
RCA end with other bypass	186
RCA end with LAD end	26
RCA bypass with Cx end	15
LAD with Cx end	8
LAD end with other bypass	4
Total	239

11. Double bypass with endarterectomy.

Type of Operation	No. Patients	%
RCA end-Lad-Cx	18	6
RCA end-Lad-OM	12	4
RCA-LAD-Cx end	4	1
RCA end-LAD end-Cx	1	0.3
RCA-LAD end-Cx end	1	0.3
RCA end-LAD-OM end	1	0.3
RCA end-LAD-Cx end	1	0.3

12. Triple bypass with endarterectomy.

Early		
	No. Patients	%
Operative	10	3.2
Immediate (0 to 5 days)	15	4.8
Hospital death (5 days to dismissal)	5	1.6
Total	30	9.6
Late		
Cause	No. Patients	%
Cardiac	9	3.0
Other	2	0.6
Total	11	3.6

13. Early and late mortality in 315 patients.

lowed returned to work, and the remaining 25% were unable or disinclined to do so. Only 5% of the patients have had evidence of recurrent myocardial infarction since operation. Ninety-two percent were considered to have benefited from the operation according to their referring physicians.

Among the 285 patients discharged from the hospital, 17 (6%) experienced recurrent pain or myocardial infarction necessitating the performance of postoperative arteriographs. In the 31 grafts in these 17 patients, 16 grafts (51.5%) were patent and 15 grafts (47.5%) were occluded (Fig 16). Of these 15 occluded grafts, 12 occurred during the first six months; 10 of the 15 had been done with associated endarterectomy and 5 had not.

Discussion

Aortocoronary artery bypass graft, using the autologous saphenous vein, is presently the most optimum method of revascularizing the ischemic myocardium. Revascularization has been considered possible only if the vessels were partially obstructed or patent distal to areas of complete occlusion. Should this criteria be applied strictly, however, one would be forced to deny revascularization operations to a large number of patients who frequently have complete occlusion of the entire length of the coronary vessels. In this series, the RCA was completely occluded in 56% of the patients and the LAD in 22%. Although various approaches have been proposed for revascularizing totally occluded coronary arteries,[6-10] the techniques of combined endarterectomy and saphenous vein bypass graft appears to offer the best possible method of revascularizing segments of the myocardium supplied by these totally occluded vessels.

The technique of endarterectomy using carbon dioxide does not seem to offer any advantages over the mechanical technique, and can even result in rupture of the arteries and dissection of normal distal intima. We believe that failure in previous attempts at endarterectomy was caused by inadequate proximal flow; and to preclude this situation, suggest that any coronary arteriotomy be covered with a vein bypass graft.

Vessel	No. Patent Grafts	Occluded Grafts
RCA	3	
RCA end	16	3
LAD	14	
LAD end	3	
Cx	5	1
Cx end	1	
OM	1	
OM end	1	
Total	44	4

14. Autopsy graft findings in 22 patients.

15. Long-term results in 240 patients with angina.

	No. Patients	%
Completely relieved or improved	212	88
Unchanged	19	8
Worse	5	2.1
No angina preoperatively	4	1.7

(24 Months — January 1970 to January 1972)

Summary

Review of 1,059 patients undergoing coronary artery bypass revealed that 315 patients (30%) demonstrated one or more completely occluded or extensively diseased coronary arteries, precluding anastomosis at the optimum site for bypass. These patients were treated with combined coronary endarterectomy and vein bypass graft. The immediate and long-

term results were found to be comparable with the results of bypass graft alone in more highly selected patients. The RCA most frequently demonstrated complete occlusion, requiring this technique in 281 (27%) of the 1,059 patients. The overall hospital mortality of 9.6%, including 3.2% operative deaths, 4.8% immediate deaths (zero-to-five postoperative days), and 1.6% hospital deaths (including the fifth postoperative day to dismissal), compared favorably with the mortality rates of patients not requiring endarterectomy. Late mortality of 3.6% was derived from a follow-up period inclusive of 3 to 24 months following dismissal.

Angina was completely relieved or decreased in 88% of the patients, unchanged in 8%, and became worse in 2%. Seventy-five percent of the patients followed returned to work; 5% had evidence of recurrent myocardial infarction. Of the 315 patients, 92% were considered to have benefited from the operation according to their referring physicians. We believe this technique of combined endarterectomy with saphenous vein bypass graft extends the applicability of the principle of direct myocardial revascularization.

References

1. Absolon KB, Aust JB, Varco RL, et al: Surgical treatment of occlusive coronary artery disease by endarterectomy or anastomotic replacement. Surg Gynec Obst 103:180-185, 1956.

2. Bailey CP, May A, Lemmon WM: Survival after coronary endarterectomy in man. JAMA 164:641-646, 1957.

3. Cannon JA, Longmire WP, Kattus AA: Considerations of the rationale and technique of coronary endarterectomy for angina pectoris. Surgery 46:197-211, 1959.

4. Effler DB, Groves LK, Sones FM Jr, et al: Endarterectomy in the treatment of coronary artery disease. J Thorac Cardiov Surg 47:98-108, 1964.

5. Effler DB, Sones FM Jr, Favaloro R, et al: Coronary endarterectomy with patch-graft reconstruction: Clinical experience with 34 cases. Ann Surg 162:590-601, 1965.

6. Favaloro RG: Saphenous vein graft in the surgical treatment of coronary artery disease. Operative technique. J Thorac Cardiovasc Surg 58:178-185, 1969.

7. Johnson WD, Flemma RJ, Lepley D Jr, et al: Extended treatment of severe coronary artery disease: A total surgical approach. Ann Surg 170:460-470, 1969.

8. Effler DB, Favaloro RG, Groves LK: Coronary artery surgery utilizing saphenous vein graft techniques: Clinical experience with 224 operations. J Thorac Cardiovasc Surg 59:147-154, 1970.

9. Reul GJ, Morris GC, Howell JF, et al: Coronary artery bypass in totally obstructed major coronary arteries. Arch Surg 102:373-379, 1971.

10. Reul GJ, Morris GC, Howell JF, et al: Experience with coronary artery bypass grafts in the treatment of coronary artery disease. Surgery 71:586-593; 1972.

11. Cooley DA, Hallman GL, Wukasch DC: Myocardial revascularization using combined endarterectomy and vein bypass autograft: Technique and results. Int Surg 56:373-380, 1971.

12. Reul GJ, Morris GC, Howell JF, et al: The safety of ischemic cardiac arrest in distal coronary artery bypass. J Thorac Cardiovasc Surg 62:511-521, 1971.

13. Friesinger GC, Page EE, Ross RS: Prognostic significance of coronary arteriography. Trans Ass Amer Physicians 83:78-92, 1970.

14. Cooley DA, Reul GJ, Wukasch DC: Ischemic contracture of the heart: "stone heart." Amer J Cardiol 29:575-577, 1972.

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16. Postoperative angiographic findings in 17 patients.

	1 to 6 Months		6 to 12 Months		12 to 24 Months	
Vessel	Patent Grafts	Occluded Grafts	Patent Grafts	Occluded Grafts	Patent Grafts	Occluded Grafts
RCA			1			
RCA end	1	7	5	1	1	
LAD	2	4	3	1	1	
LAD end		1		1		
Cx			1			
Diagonal			1			
Total	3	12	11	3	2	

Possible medical problems associated with cardiac surgery

George W. Barclay, Jr., MD

I. Introduction

During the early development of new technique there is a higher incidence of operative and postoperative failures. After this initial phase, the major morbidity and mortality is related to cardiopulmonary bypass and the recognition and management of postoperative difficulties. Therefore, close cooperation of the cardiovascular surgeon, cardiologist, hematologist, and anesthesiologist is desirable.

The postoperative medical care is primarily the responsibility of the cardiovascular surgeon.

The cardiologist who evaluates the patient before operation continues to follow him and actively participates in his postoperative management.

Considering all open heart surgery, the overall average death rate is roughly 10%. Medical complications may occur in 70% of all patients.

II. Surgical Procedures

This outline deals with: (1) elective bypass grafting for angina pectoris, and possibly for congestive failure; (2) emergency bypass grafting for preinfarction angina, and possibly for acute myocardial infarction with cardiogenic shock; and (3) excision of ventricular aneurysms.

III. Overall Mortality Statistics

A. General Comments: Mortality statistics quoted in the literature are not broken down so that one may determine what is due to poor selection of patients, faulty surgical and bypass techniques, and postoperative complications of a surgical and medical nature.

B. Mortality Associated with Elective Bypass Grafting: Mortality would be influenced by care in case selection. Cases with proximal obstructing lesions and good distal patency which have good left ventricular function will have the lowest mortality in the operative and postoperative phases. The most prognostic test is the ventriculogram. With a normal contracting left ventricle and the aforementioned prerequisites, the operative risk should be well under 5% and the prognosis excellent. Progressive degrees of impaired ventricular contractility are associated with higher mortality. Diabetes mellitus and other associated medical diseases significantly increase the operative risk.

1. Early Results: The operative mortality is 5% in patients with good left ventricular function, and has been reported as high as 25% in patients with various degress of left ventricular failure. The overall mortality for the coronary bypass surgery is approximately 10%.

2. Late Results: Two-thirds of these patients who survive have complete relief of angina. Failure to relieve angina, or its reappearance, almost always indicates occlusion of a bypass graft. Early patency rates are principally influenced by the size of the vessel selected for anastomosis and by surgical technique. Studies done one to three weeks postsurgery reveal a 90% patency in arteries greater than 2 mm in internal diameter. One to three months after operation, occlusion may result from pericardial adhesions that kink or obstruct grafts. After three months, the chief factor influencing patency is probably turbulent blood flow. It is thought that the main risk of closure of a bypass graft is within the first three to six months after operation. An 84% pa-

tency rate can be expected after two years. One big question not yet answered is, "What will be the long-term patency of the bypass grafts?" Three to five years of observation will be required to obtain sufficient data regarding the durability of bypass grafts.

C. Bypass Grafting for Congestive Heart Failure: The overall mortality has been reported as 40%. The grafts remain patent, but there is little improvement in myocardial contractility or cardiac output. Mitral insufficiency from papillary muscle dysfunction increases the surgical risk. At present, bypass grafting probably should be considered futile in patients with chronic, severe, congestive heart failure without angina, and in whom there is severe impairment of ventricular contractility.

D. Preinfarction Angina: Preinfarction angina exists when angina pectoris increases suddenly in severity, in association with changes with ST segments of the electrocardiogram (ECG). Such cases constitute a true emergency, demanding immediate evaluation and surgical treatment before infarction occurs. This would require cardiac catheterization and cardiovascular teams available at all hours, seven days a week, and would conceivably impose a serious strain on personnel and cardiac surgical facilities.

E. Acute Myocardial Infarction and Irreversible Cardiogenic Shock: Patients who develop true cardiogenic shock in acute myocardial infarction have 80-100% mortality. Limited experience has been reported in which the salvage rate has been impressive.

F. Ventricular Aneurysms

1. Operative Mortality: The Cleveland Clinic reports 10% operative mortality on 100 cases. Their total experience is over 300 cases.

2. Survival with Ventricular Aneurysms

a. Large aneurysms which can be demonstrated on routine chest films have been reported as producing a 70% mortality in five years.

b. Small aneurysms which cannot be detected by routine chest film and whose diameter is 4 cm or less produce no additional complications during life.

IV. Achieving Good Results and Having Uncomplicated Procedures: It should be obvious that patient selection is very important. Those patients who have not been in cardiac failure usually recover promptly, and often leave the hospital nine to ten days after the surgery.

V. Complications Following Open Heart Surgery

A. General Measures: Postoperative management requires continuous monitoring of ECG, central venous pressure, and blood pressure; hourly measurement of urine output; daily weight; serial hematocrit values; frequent measurement of electrolytes and arterial blood gases; and daily chest x-rays. The first day, and to a lesser extent the next few days, requires frequent visits by the cardiovasular surgeon and cardiologist. The more severely ill the patient prior to surgery, the more complications can be expected in the immediate postoperative period. Also, extended duration of anesthesia and cardiopulmonary bypass contribute to increased postoperative complications.

B. Specific Early Complications

1. Hematologic Problems: The most common cause of excessive bleeding is inadequate hemostasis. In the immediate postoperative period, if continued oozing or arterial bleeding occurs the patient may have to undergo reoperation to identify and control the bleeding site. Every effort should be made to see that cardiac tamponade does not develop. The differential diagnosis between cardiac tamponade and low cardiac output is difficult.

Inherent in the cardiopulmonary bypass technique, and particularly in long procedures, are abnormalities in various blood coagulation factors. Usually fresh blood transfusion can correct this somewhat. At the close of cardiopulmonary bypass, anticoagulation is terminated by protamine sulfate or Polybrine. The dosage usually is determined by titration. If abnormal bleeding occurs, samples of blood are collected for prothrombin time, partial thromboplastin time, Fibrindex, Lee White clotting time, platelet count, and plasma hemoglobin value. Any abnormality in clotting factors should be corrected promptly in the intensive care unit. Thrombocytopenia, which may or may not be accompanied by petechiae, should be corrected with platelet transfusion. If circulating anticoagulants are thought to be present, fresh blood should suffice. A hemotologist should be available for consultation.

Bleeding problems are usually not due to inadequate neutralization of heparin, excessive use of protamine sulfate, fibrinolysis, or consumptive coagulopathy. However, these abnormalities in the clotting mechanisms must be considered in all patients when postoperative bleeding is excessive and does not respond to the usual measures.

Disseminated intravascular coagulation is treated with heparin. A quick, differentiation between this and fibrinolysis might be the observation that in both states fibrin may be subnormal, but in fibrinolysis the platelet count is usually normal while in disseminated intravascular coagulation and platelet count would be low. Other sophisticated tests are required to definitely differentiate these two rare conditions.

2. Electrolytes, Fluids, and Metabolic Problems: The use of dilute prime solutions may result in a hypervolemic state. Also, secondary to surgery there may be excessive release of antidiuretic hormones, leading to excessive water retention. The initial postoperative renal function may be depressed, but it has been reported that urinary output increases daily until a mild diuresis occurs by the third day following surgery.

The reasons for hypokalemia are multiple and the effects may be profound. Cardiac arrthymias may develop as a consequence and digitalis intoxication may be potentiated. Potassium infusion may ameliorate or completely abolish digitalis-related and nonrelated atrial and ventricular arrhythmias. Digitalis preparations and diuretics are discontinued two days prior to operation. Hypokalemia may be refractory to therapy when associated with hypomagnesemia. Hypokalemia may be treated by adding 40 mEq of potassium chloride in 250 cc of 5% glucose in water and infusing in three hours and repeated as often as necessary. Also, 40-60 mEq of potassium chloride may be added to each liter of Ringer's lactate.

Water intoxication (retention in excess of electrolytes) may be treated by restricting water to 300 to 500 cc/day plus the estimated insensible loss. This may be

supplemented by 200-300 cc of 3% sodium chloride solution. In such a situation intravenous ethacrynic acid may effect a diuresis.

Hyperkalemia may be treated by giving Kayexalate orally or by retention enemas of the same resin. Hyperkalemia may also be treated by intravenous infusion of sodium bicarbonate with 44-132 mEq in 500 cc of 20% glucose solution water, with 30 units of regular insulin added. Although rarely indicated, peritoneal dialysis may be used in cases of fulminant pulmonary edema and renal failure and in cases of hyperkalemia with renal failure not responding to the routine treatment. Where excessive fluids have resulted in pulmonary edema, phlebotomy can be performed and the patient given another transfusion with packed cells.

The most reliable means of detecting congestive heart failure is by portable chest x-ray. Rapid clearing of pulmonary congestion on x-ray following 50 mg of ethacrynic acid given intravenously furnishes strong evidence of left-sided heart failure.

Respiratory acidosis is due to inadequate ventilation. Respiratory alkalosis is due to overventilation. Metabolic acidosis in most cases is due to inadequate peripheral perfusion with inadequate tissue oxygenation, anerobic metabolism, and accumulation of lactic acid. Metabolic acidosis may lead to decrease in myocardial function which in turn precipitates arrhythmias and makes resuscitation difficult, if not impossible. The ideal treatment is to increase perfusion. Metabolic acidosis can be treated with sodium bicarbonate with doses up to 2 mEq/kg body weight while concomitantly monitoring arterial pH and blood gases. Metabolic alkalosis, in general, occurs in the presence of hypokalemia and excessive diuretic treatment.

3. Hypotension and Low Cardiac Output: The low cardiac output syndrome is one of the most common problems in cardiac surgery. It must be differentiated from other causes of hypotension including volume depletion, myocardial infarction, or coronary embolus, atrioventricular block with slow ventricular rate, uncorrected metabolic acidosis, and cardiac tamponade due to clot formation and closure of the pericardial window. There is decreased myocardial contractility and increase in circulating catecholamines.

Clinically, the patient has cold, cyanotic limbs, decreased urine flow, increased central venous pressure, decreased peripheral pulses, and a blood pressure in the low to normal range. There is a small pulse pressure. There is poor tissue perfusion and high lactic acid levels. There is low cardiac output and increased peripheral resistance. The urine output is usually less than 30 cc/hour. The cause may be unknown in greater than 50% of the patients. The initial treatment is Isuprel infusion. If there is no improvement, then additional increments of digitalis may be tried, and this, subsequently, followed by epinephrine and possibly dopamine. When there is peripheral vasoconstriction and a high central venous pressure, then the alpha-adrenergic blocking agents such as Thorazine or Regitine, or possibly Dibenzyline, may be tried. Isuprel is the most widely used drug, and the dosage is 1 to 2 mg in 500 cc 5% glucose in water infused at a rate to avoid excessive tachycardia and ventricular arrhythmias. A central venous pressure of 12-15 cm of H_2O is desirable, and if it is below this value then volume replacement is desirable. Epinephrine causes an alpha-

vasoconstrictive effect on the kidneys. Alpha-adrenergic blockers, such as Dibenzyline or chlorpromazine may be used concomitantly with epinephrine to block this effect. Aramine and Levophed generally should be avoided because of vasoconstrictive properties. They should be used only as a temporary expedient to maintain a sufficient blood pressure. It cannot be overemphasized that pericardial tamponade, although infrequent, is important in that it is readily treatable. It may occur after partial pericardectomy due to loculation of fluid under the remaining pericardium. It should be suspected in the low cardiac output syndrome where there is increasing cardiac silhouette with clear lung fields on chest x-ray and a rapidly rising central venous pressure.

4. Arrhythmias: Atrial and ventricular arrhythmias are apparent in almost all patients. These may occur in the presence of acid-base imbalance or may be precipiated by drug toxicity. They may occur in the absence of either of these complicating factors. When one is asked to see a patient with regard to operative or postoperative arrhythmias, these two factors must be kept in mind. It must be decided whether the arrhythmia is due to digitalis intoxication, perhaps precipitated by hypokalemia, or acid-base imbalance, or whether the arrhythmia is due to intrinsic cardiac disease. In one case, digitalis may be contraindicated and detrimental, and in the other case, digitalis may be highly indicated. To try to minimize these problems, digitalis is not used prophylactically. The maintenance digitalis is discontinued two days before surgery. Also, there may be a washout of digitalis during cardiopulmonary bypass which will provide and additional margin of safety for using digitalis in postoperative arrhythmias. Sinus tachycardia, with little or no heart failure, is generally not an indication for increased digitalis. Ventricular premature contractions and ventricular tachycardia, clearly not due to digitalis therapy, and occurring in the presence of acute pulmonary edema or congestive heart failure, do not contraindicate digitalis therapy.

The common digitalis toxicity arrhythmias are: ventricular tachycardia, paroxysmal auricular tachycardia with block, increasing atrioventricular block, and rarely supraventricular tachycardias. In nondigitalis toxicity arrhythmias, atrial flutter and fibrillation and supraventricular tachycardias should be treated with digitalis. Inderal may be added if digitalis fails to provide effective control. For digitalis-induced arrhythmias, the drugs of choice are Dilantin and Inderal. For premature ventricular contractions and ventricular tachycardia, lidocaine is the drug of choice. Other drugs in order of decreasing choice are: procainamide, Dilantin, and Inderal; the latter two, especially, if digitalis intoxication is suspected. Bradycardia and/or heart block should be treated by temporary pacing. This can be either epicardial pacing, with the electrodes attached to the ventricle at the time of thoracotomy, or a pacing catheter passed transvenously and the right ventricular subendocardium paced. Atropine and Isuprel are temporary adjuncts.

5. Respiratory and Pulmonary Complications: Post Pump-Lung Syndrome: This syndrome has been given several names: post perfusion syndrome, poison lung syndrome, and others. It can develop 6 to 24 hours after surgery and is characterized clinically by extreme dyspnea, fever, cyanosis, and hypotension. Respirations become rapid and shallow, and frequently re-

traction of the interspaces occurs. The patient requires higher pressures on the ventilator to maintain a tidal volume due to decreased compliance of the lung. There is progressive decrease in oxygen saturation and an increase in the pCO_2. If the partial pressure of oxygen drops below 30 mm Hg with the patient on 100% oxygen and supportive ventilation, death usually occurs. At autopsy, the lungs are engorged, hemorrhagic, and atelectatic. There is proteinaceous fluid in the alveoli. Before the understanding of this disease, and before the introduction of the volume-control pressure ventilator, many of these people died. The chest x-ray characteristically shows diffuse patchy infiltrate that can be confused with pulmonary edema and diffuse pneumonitis. The incidence of this syndrome is thought to be proportional to the length of pump time. During cardiopulmonary bypass, arterial perfusion is obstructed. Apparently there is increased capillary permeability, and on restoration of the pulmonary blood flow, congestion, edema, and intra-alveolar hemorrhages occur. Surfactant which is normally present in lung tissue is decreased after cardiopulmonary bypass.

The treatment is support with constant volume ventilation at an increased pressure and with a positive and expiratory pressure of 5 to 10 cm of H_2O. This is thought to prevent alveolar collapse due to loss of surfactant. When high respirator pressures are used, the patient must be carefully monitored for signs of hemodynamic impairment due to interference with return of blood to the right side of the heart. If the patient survives 48 to 72 hours, he usually recovers.

Patients with chronic bronchopulmonary disease, existing prior to surgery, probably should be treated with elective tracheostomy and maintained with a mechanical respirator during the immediate postoperative period to prevent respiratory insufficiency.

Pulmonary embolism is the most frequently misdiagnosed pulmonary condition in medicine. In any patient whose heart failure responds poorly to treatment, the possibility of small recurrent pulmonary emboli should be suspected. Small pulmonary emboli go to arteries of internal diameter of 1 mm or less and occur without infarction. However, they may lead to atrial arrhythmias or congestive heart failure. Medium size emboli go to medium size arteries and result in consolidation, hemoptysis, and a typical chest x-ray finding which may occur several days after the initial insult. These can be recognized clinically and usually are diagnosed fairly easily. Massive pulmonary emboli are generally rapidly fatal. However, if shock persists for one hour, embolectomy must be considered. This will require emergency pulmonary angiography and surgery under total cardiopulmonary bypass. In medium sized pulmonary emboli, selective pulmonary arteriography is indicated if the diagnosis is not definite, and the choice of treatment depends on specific diagnosis.

6. Acute Hypertension: This condition may occur without any previous history of hypertension and becomes of concern when the blood pressure rises above 180/110 mm Hg. This may be caused by hypoventilation and hypoxia. These factors should be corrected; however, if hypertension persists, then an infusion of Arfonad for 24 hours is the treatment of choice. It should be remembered that Arfonad is not effective in the acute hypertensive crisis of pheochromocytoma.

7. Pericarditis: Virtually all patients op-

erated on develop some degree of pericarditis. This may be a cause of fever after the first few post-operative days. Pericardial inflammation involving the sinoatrial node is an important inciting factor in supraventricular arrhythmias. If pericardial effusion develops, then the treatment is Aldactazide, 1 tablet/day for five days, and Prednisone, 40-60 mg/day. If pain persists, then Prednisone is given on a gradual reduction schedule during three to four weeks. When patients are receiving anticoagulants, corticosteroids rather than aspirin should be used to control pericardial pain and effusion in pericarditis.

8. Renal Complications: Postoperative urine flow should exceed 20-30 cc/hour. Excessive use of mannitol may induce hyperosmolality, hyponatremia, and pulmonary edema. Urine sodium excretion in excess of 40 mEq/liter suggests acute renal failure. Routine urinalysis in the postoperative period may show albuminuria, microscopic hematuria, and granular casts. These are usually self-limiting conditions and are of no clinical significance. Hematin casts, however, indicate acute or focal tubular necrosis.

9. Hepatic Problems: Increased bilirubin or early bypass jaundice may occur in approximately 10% of the patients. Usually the bilirubin reaches a level of about 3 mg/100 ml and peaks around the seventh to tenth day, and is back to normal by two weeks. The SGOT level is highly prognostic. If it remains within the range of 50 to 150, there are no deaths. The cause of this phenomena is thought to be multifactorial in origin. The factors are: hypoxia, low cardiac output, microembolization, cholestasis, and preexisting marginal compensation. Overt hepatic failure may occur in 2% of patients. The bilirubin elevation in these cases occurs later, around 12-14 days, and is associated with a high SGOT level. These cases may have a high mortality. A late hepatic complication is serum homologous jaundice which may occur approximately two months post-operatively. Previously this was thought to occur in about 10% of patients, and is occasionally fatal. Blood donors are the most significant source and the potential for the complete elimination of this complication is good. The efficacy of prophylactic gamma globulin has not been proven.

10. Endocarditis: This usually occurs following valve surgery and the incidence is low. Offending organisms in order of decreasing frequency are: *Staphylococcus aureus, Pseudomonas, Staphylococcus albus, Candida,* and diphtheroids. Many institutions use prophylactic antibiotics beginning the day of surgery and persisting for one to two weeks postoperatively. The treatment consists of 2 gm of oxacillin/24 hours plus 4 million units of penicillin, occasionally with added streptomycin. It should be noted that all patients are febrile three to seven days postoperatively, and such fever usually does not indicate infection.

11. Neurological Complications: Acute onset of neurological signs generally is the result of single or multiple cerebral emboli. Hypoxia may cause confusion, anxiety, and restlessness. Cerebral edema can cause mental obtundation with no localizing neurological signs. This may occur after excessively long pump runs. It may be treated with massive corticosteroids and intravenous infusions of mannitol. If the same syndrome occurs 24 to 48 hours after a lucid interval, then one must suspect water intoxication with sodium levels in the range of 105-115 mEq/liter, and hypokalemia.

12. Psychiatric Complications: These

patients are emotionally and physically exhausted. It is thought that psychosis may occur postoperatively in 30% of the cases. This incidence may be decreased by early return to the medical floor, if feasible, and by constant nursing attention in the recovery room.

VI. Late Complications of a Medical Nature

A. Post-Pericardiotomy Syndrome: The estimated incidence is 10%. It may develop months or perhaps even a year after operation and usually long after the patient is discharged from the hospital. It varies in severity from mild chest paint and fever of a few days' duration to recurrent episodes of high fever, severe chest pain, and arthralgias. On auscultation, a loud friction rub may be present. The treatment is salicylates and, in extreme cases, corticosteroids.

B. Post-Pump Lymphocytosis: This syndrome has been given several names: post-pump fever, febrile postcardiotomy lymphocytic splenomegaly, and others. It usually occurs after the patient is discharged from the hospital, and one to three months postoperatively. The incidence is approximately 5%. There is fever, splenomegaly, and possibly splinter hemorrhages and petechiae. When the patient is first seen, the doctor suspects bacterial endocarditis. Blood cultures grow no organisms. Other possibilities to be ruled out are infectious mononucleosis and drug fever. The heterophile test is usually negative. This has been extensively investigated, and the cytomegalovirus has been incriminated. These patients do not respond to antibiotics, but may get prompt response to salicylates. If symptoms persist, then prednisone, 10 mg four times a day, for one to two weeks, tapering the dose schedule over a three- to four-week period, may be warranted.

VII. Pharmacodynamics and Clinical Use of Cardiovascular Drugs After Cardiac Surgery

A. Antiarrhythmic Drugs: Digitalis will be listed under cardiac stimulants. Digitalis of course is the drug of choice in supraventricular tachyarrhythmias not due to digitalis intoxication.

1. Lidocaine (Xylocaine): This is the ideal drug for treatment of premature ventricular contractions and short bursts of ventricular tachycardia during and after surgery. It is given initially as an intravenous bolus of 50-100 mg, and can be repeated in five minutes. Its concentration peaks immediately. An infusion given alone requires 30-60 minutes to reach blood level plateau. Once a bolus has been given, then an infusion should be started and can be regulated at a rate of 1-4 mg/minute. This is given best by placing 1-2 gm in 500 cc of 5% glucose in water. Lidocaine has little effect on systemic arterial pressure and on ventricular contractile force. It is used with caution in heart block unless a pacemaker is being used. It is metabolized by the liver, and consequently the dose should be decreased by 50% in the presence of hepatic disease.

2. Procainamide (Pronestyl): This drug can be given both parenterally and orally. It decreases arterial pressure and contractile force of the right ventricle, and may diminish cardiac output. Given orally, it is almost completely absorbed by the gastrointestinal tract and 60% is excreted unchanged by the kidneys. The intravenous dose is 50 mg/minute, and a total of 500

mg to 1 gm may be given. The limiting factors may be hypotension, termination of the arrhythmia, or widening of the QRS wave on the electrocardiogram. The latter is a definite indication of toxicity. Orally, the dose is 250-500 mg given every three to four hours for maintenance. The initial loading dose can vary from 500-1,000 mg.

3. Dilantin: This drug is effective in digitalis-induced supraventricular tachycardias, but not in other atrial arrhythmias. It can be used to control premature ventricular tachycardias due to intrinsic heart disease or secondary to digitalis intoxication. The dose orally is 1,000 mg initially the first day, and then 400-600 mg/day in divided doses thereafter. Intravenously, it can be given 100 mg every five minutes to a cumulative dose of 1,000 mg.

4. Propranolol (Inderal): Propranolol decreases the resting heart rate and decreases myocardial contractility and cardiac output. It also decreases atrial automaticity and increases the functional refractory period of the atrioventricular node and produces impaired atrioventricular conduction. It has a quinidine-like effect on the membrane. Its antiarrhythmic action lasts two to six hours, and it should be used with great caution since it may produce low cardiac output syndrome with shock, or may induce congestive heart failure. The dose is 1 mg intravenously every five minutes for a cumulative dose of 5-6 mg, or orally it can be given 60-120 mg/24 hours. This would be 15-30 mg every six hours.

5. Quinidine: This drug is rapidly and completely absorbed by the gastrointestinal tract and is totally excreted by the kidneys. It is dangerous if given parenterally. It decreases arterial pressure and depresses myocardial contractility. Its uses are for prevention of recurrent atrial arrhythmias, maintenance of sinus rhythm after cardioversion, and treatment of arrhythmias unresponsive to lidocaine, procaine, and dilantin.

B. Cardiac Stimulants

1. Digitalis: If there is no evidence of congestive heart failure preoperatively, digitalis is not given prophylactically. If congestive heart failure develops during or after surgery, then rapid digitalization may be permitted. The dosage of Lanoxin is 0.75 mg intravenously initially, and then 0.25 mg every three hours for two or three additional doses. It is indicated in supraventricular tachyarrhythmias (not due to digitalis intoxication) occurring during or after surgery. If previous digitalization has been accomplished and these arrhythmias occur and no digitalis intoxication is evident, then 0.25 mg increments may be given intravenously every two hours until the desired results or evidence of toxicity appears.

2. Calcium Chloride: This drug increases myocardial contractility. It should be avoided if there is any question of overdigitalization. If large transfusions of citrated blood have been used, then there is a great possibility of depression of ionized calcium, and this must be supplemented.

3. Epinephrine: This drug may be considered in patients unresponsive to isoproterenol in the low cardiac output syndrome. The dose is 4 mg in 500 cc of 5% glucose in water.

4. Isuprel (Isoproterenol): Isuprel is the most widely used drug in the low cardiac output state. The dosage is 1-2 mg in 500 cc of 5% glucose in water infused at a rate to increase the cardiac output to the desired level without excessive tachycardia or ventricular arrhythmias. The effect of Isuprel is mostly the result of its chro-

notropic effect that increases heart rate. At the levels used, peripheral vasodilation is minimal.

C. Beta-Blocking Agents: Propranalol, or Inderal, is the only drug commonly available in this country, and it is listed herein under anti-arrhythmic drugs.

D. Alpha-adrenergic Blocking Agents: These drugs inhibit vasoconstricting effects produced by elevated levels of circulating catecholamines (epinephrine and norepinephrine). If these drugs are used in combination with Isuprel, they may produce a significant hypotensive effect. Blood volume should be replaced as needed to maintain adequate central venous pressure (12-15 cm of H_2O).

1. Dibenzyline: The dosage is 1 mg/kg of body weight, given intravenously. The therapeutic effect may last for 24 hours.

2. Regitine: This drug is short acting and must be given as a continuous intravenous infusion at a rate of 0.5 mg-1.0 mg /minute. Since the drug has a short duration of action, its administration is more easily controlled than that of Dibenzyline.

3. Chloropromazine (Thorazine): The exact mechanism of action of this drug is unknown; however, it is thought to produce a substantial vasodilation through ganglionic blockage. The dosage is 2.5 mg, intravenously. The onset of action is within 5 to 20 minutes, and its duration of action is from 2 to 12 hours.

Comment: If there is a decrease in central venous pressure on usage of the alpha-blocking agents, then fluid replacement is indicated.

E. Alpha Stimulants: Aramine and Levophed are the most commonly used in our practice. These generally should be avoided due to vasoconstrictive properties. They are used as a temporary expedient only to maintain blood pressure. It should be remembered that Aramine causes release of norepinephrine stores in the heart and other tissues, and thus acts indirectly. Levophed causes extreme tissue damage and sloughing if it infiltrates locally. Regitine will neutralize this effect if used promptly.

F. Anti-hypertensives: The drug of choice for intravenous therapy is Arfonad. The dose is 500 mg in 500 cc of 5% glucose in H_2O, and the initial infusion is 30 drops/ minute; the infusion is regulated to produce the desired blood pressure. Its onset of action and rebound is prompt and makes it a good drug for close control. It can be given in conjunction with Levophed. Arfonad is not effective in the acute hypertensive episode of pheochromocytoma. Regitine and propranolol are the drugs of choice in the hypertensive crisis of pheochromocytoma.

G. Alkalizing Agents

1. Sodium Bicarbonate: This drug comes in vials of 44 mEq. In metabolic acidosis due to poor perfusion, the total dose given is estimated as 2 mEq/kg of body weight. This would be approximately three vials for a man weighing 70 kg.

H. Direct Current Countershock: This is used only if other methods are ineffective. There is small incidence of wound dehiscence and frequent recurrence of arrythmia when precipitating factors remain.

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Rehabilitating the stroke patient

Shelly Liss, MD

The word "stroke" has an interesting connotation; I imagine that it is a shortening of "a stroke of God." Many people still accept the residua of stroke fatalistically, as God's will. During my internship not too long ago, while working in the Emergency Room, I was taught that patients with a fresh stroke were to be given a glass of water. If the patient could swallow, we were to explain to the family what had occurred and send the patient home. If the patient could not swallow, we were to put down a stomach tube and show the patient's family how to use it, *then* explain to the family what had occurred and send the patient home. Medicine has progressed during the few short years since these instructions were given. Unfortunately, care of stroke patients has not been the object of this progress.

In this country there are approximately 1,800,000 living patients who have suffered strokes. One-third were wage earners at the time of the stroke. Stroke is the third highest cause of death, and a member of one in ten households will be a stroke victim during a ten-year period.[1] With an organized rehabilitation program, as described in this article, 90% of stroke patients can be taught to get out of bed or to transfer from bed to wheelchair and back, from wheelchair to commode and back, independently; 70% can be taught independence in self-care or activities of daily living; and 30% can return to work.

Processes of Recovery

In stroke recovery we have two simultaneous processes, spontaneous neurological recovery and rehabilitation training. The former occurs as the injured central nervous system (CNS) cells regain their function. Spontaneous neurological recovery will occur whether the patient receives the finest medical attention and rehabilitation training or none at all. However, many patients are not trained to use the neurological recovery as it occurs and thus do not function up to their capacity. Further disability occurs as complications of prolonged bed rest, inactivity, and lack of intellectual stimulation take their toll.

Rehabilitation training is the process of educating the patient to make maximum use of the intact bodily functions. Laboriously treating the paralyzed limbs will not hasten neurological recovery. In moderation, treatment will prevent contractures and edema. In rehabilitation, emphasis should be given to strengthening and training the patient to utilize the intact musculature maximally. As a rule of thumb, if a patient is destined to enjoy 100% recovery, it will occur within the first two months. About 80% of spontaneous neurological recovery will occur within the first six months. Almost all of the neurological recovery occurs within the first year. A patient who has had a stroke for more than one year cannot expect a great deal more as far as spontaneous recovery, but if he is not performing up to his maximum function, then he still can gain much from a rehabilitation training program.

Candidates for Inpatient Rehabilitation

Not all stroke patients are candidates for inpatient rehabilitation programs. The severity of stroke ranges from transient neurological symptoms to minor permanent impairment, coma, and sudden death. The patient on either end of the spectrum has little to gain from a rehabilitation

program. On one end are those who need continuing long-term nursing care, and on the other, those who can do well with homebound therapy, outpatient therapy, or no therapy at all. At the middle of the spectrum are the candidates for a comprehensive inpatient rehabilitation program.

Too frequently, stroke patients are admitted to a hospital, given a general medical work-up, undergo various diagnostic procedures, given symptomatic medications, and then relegated to the back bedroom of the family home or to a nursing home. With weeks, months, even years of neglect, we find complications which are more devastating than the initial pathology. Bed sores, genitourinary infections from long-term catheterization, contractures of the shoulders, elbows, wrists, hands, knees, hips, and ankles are examples. Painful shoulders, weakness and deconditioning from prolonged bed rest, disorientation from deprivation of environmental stimulation, and finally and most important, the loss of resolve or will to improve, completes the syndrome. On the other hand, what is the prognosis in a patient who is beginning the rehabilitation process? In simple hemiplegia, the patient should be ambulatory and independent in self-care within four weeks.

Many components of a rehabilitation program are scattered about piecemeal in hospitals, outpatient clinics, nursing homes, and home health agencies. If a stroke patient is to be evaluated adequately or have maximum rehabilitation, he should be in an inpatient facility with a specialized rehabilitation nursing service. In addition, proper medical supervision and the customary multidisciplinary components should be integrated into a true team approach. Unlike some other groups of patients, the stroke patients will be divided into failures and those who just as easily might have rehabilitated themselves in a suboptimal program.

Rehabilitation

Motivating the stroke patient is of the utmost importance. The devastation of hemiplegia, brain damage, and abrupt interruption of life style lends itself to rapid capitulation in all but the most highly motivated. The specialized rehabilitation service concentrates these patients into an easily manipulated milieu where operant conditioning methods can be used and the patients can find reassurance in the successes of their fellow patients. Isolated in the general hospital, the nursing home, or the family bedroom, no such motivation is available.

To begin the multidisciplined, inpatient program, the rehabilitation nursing team will evaluate the patient for sitting tolerance and initiate a mobilization schedule. If the patient has been essentially bedridden for several weeks and is deconditioned, a 15- to 30-minute sitting program three times daily will be started. If no additional energy dissipating conditions exist, "up time" can be increased 30 minutes three times daily. Usually by the end of the first week the patient does not need bed rest except at night.

The bowel and bladder also require consideration. The bowels become sluggish with inactivity and stool softeners should be initiated on a routine basis. Fluids should be pushed, Foley catheters removed as soon as possible, and the urinal offered every two hours.

An excellent strengthening and progressive mobilization program is described by Hirschberg.[2] Taught by the physical

1. Captain's chair with risers.

2. Patients learn to stand up with the help of high table.

therapy staff, this is a stand-up, step-up program which carries the patient through a graded series of progressive exercises leading to independent ambulation. It is extremely efficient and effective. The patients develop self-confidence and overcome the psychology of failure so frequently seen. Reliance on the therapist is minimized and attempts at too difficult tasks are prevented by the methodical progression of increasingly demanding exercises. The patient first is taught the simple process of getting about in the bed, rolling over, lifting the paralyzed leg with the unaffected leg, and shifting weight while sitting to balance by leaning on the stiffened, intact arm.

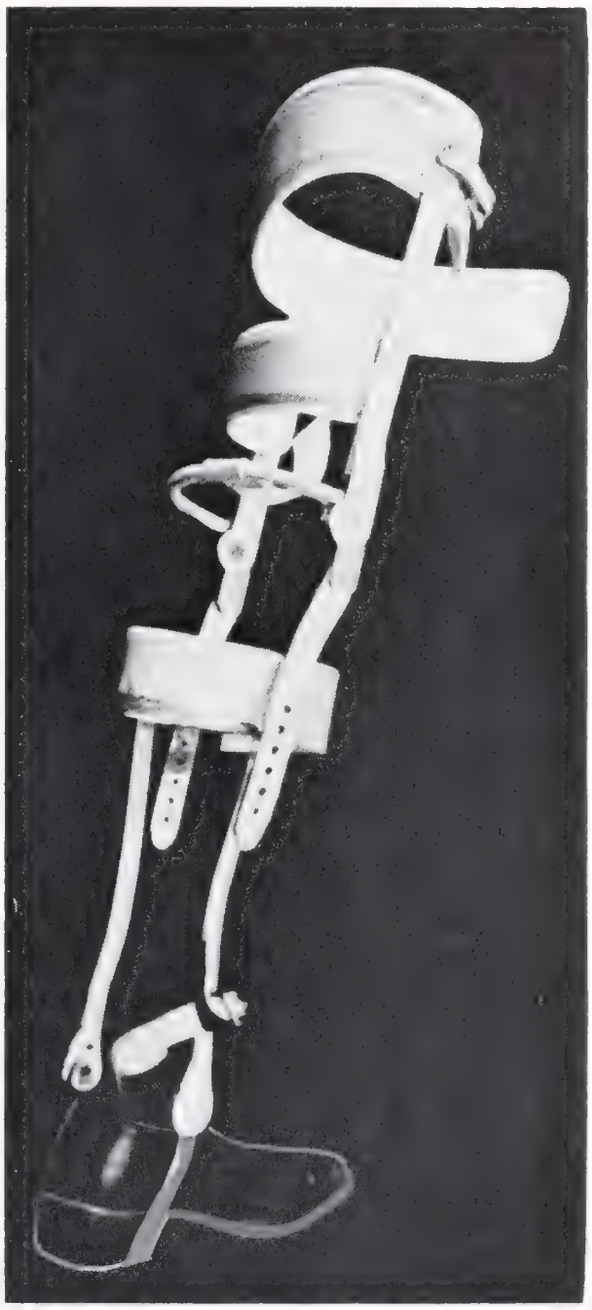
The "stand-up" process is then begun. This is not a complicated process. A regular captain's chair with risers is used (Fig 1). When the patient begins he is weak, debilitated, and has poor balance. As many risers are placed in the chair as are required in order to allow the patient to come to a standing position with minimal therapist assistance. The patient progresses as the cardiopulmonary condition, antigravity muscle strength, and balance improve. The risers are reduced, one by one, until ultimately the patient is able to stand up and sit down, without any risers, from the standard captain's chair. The table in front of the patient is too high to allow him to push up with his arms (Fig 2). The primary process here is to strengthen the antigravity muscles of the lower extremities; it is an excellent program for cardiopulmonary conditioning as well as balance training. This also lends itself to supervised group activities where four patients can stand about the table, each exercising at his own level.

When the patient is able to stand up independently from a chair, he begins the

"step-up" portion of the program. Stair climbing is begun before floor ambulation. Psychologically, the fear of falling is not as great for the patient looking at the stairs before him compared to the floor which is much farther distant by comparison. The stairs are of three elevations; 2, 4, and standard 6 inches. There is no overhang at the edge of the steps and the steps are long enough to allow the whole foot to be placed solidly and firmly on them. The railings are sturdy, leaving sufficient room to allow the therapist to accompany the patient up the stairs. The reasons that the step-ups are preferable to ambulation on flat surfaces initially are that the patient cannot drag his foot, but must alternate one foot over the other in order to get up the stairs, and raising the body weight up the stairs maximally challenges and strengthens the antigravity muscles of the thigh.

When the patient achieves sufficient confidence, balance, and strength, transfer training should be initiated. Next to walking, successful accomplishment of this activity is the single most important goal the patient can achieve. Safe and independent transfer from bed to wheelchair and wheelchair to commode allows the patient independence at a wheelchair level compared to dependency at a bedridden level. He is no longer the captive of the time and inclination of family or nurses. Next, the complicated task of transfer itself is broken down into simple steps. The wheelchair is positioned on the patient's strong side. The good arm on the wheelchair handle is used to assist in standing. The good leg, strengthened by step-ups and stand-ups, elevates the body, then pivots into position to slowly ease down into the new position.

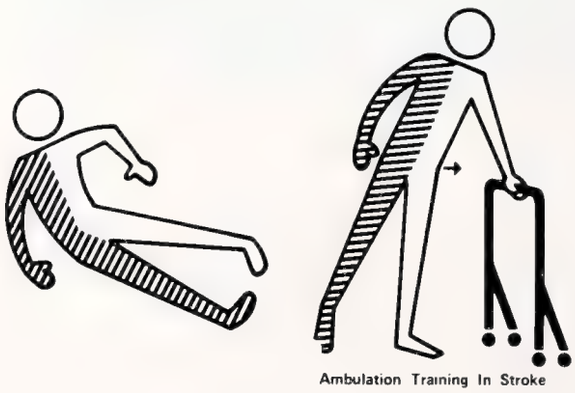
Braces are ordered early to minimize



3. Long-leg brace with detachable uppers.

4. Hemi-walker.

5. The hemiplegic patient must learn to shift his center of gravity to his strong side.



Ambulation Training In Stroke

hospitalization time. Before the patient has full use of the knee, a long-leg brace may be ordered. Detachable uppers are added so that as the patient regains use of the knee; they can be removed when no longer needed and the lower part used as a short-leg brace (Fig 3).

A special type of walker (Ortho Walkane) can be used. Coined "the hemi-walker," it is designed to be used by the one good arm of the hemiplegic (Fig 4). The patient should not be taught to mimic normal gait. One-half of the patient's body has been deprived of motor and possibly sensory function. If he tries to walk normally with equal weight distribution on both feet, he will fall to the weaker side (Fig 5). In gait training, the patient is taught to shift his center of gravity over to the good side and take a considerable amount of the weight off the weakened side onto the hemi-walker.

The hemiplegic leg is longer than the normal leg. It is not anatomically longer, but it is physiologically longer. The reasons for this are: (1) The hip muscles, (hip hikers and flexors) are weakened and therefore do not hold the hemiplegic leg up as high on the pelvis. (2) The muscles which dorsiflex the ankle are weak so the toe drags on the floor, lengthening the foot. (3) The rhythm of knee and ankle motion working together is lost, breaking into discrete movements what normally would be a smooth, single flow. To overcome this physiological lengthening, a series of shoe lifts is taped on the *good* side to allow the hemiplegic leg to be brought through during swing phase of ambulation. The optimum height of the lift is found by trial and error. The temporary lift is then replaced by a permanent heel and sole lift prior to discharge. The patient progresses from hemi-walker to quad cane to regu-

lar cane, and is discharged with the least equipment compatible with safety.

When the arm is paralyzed up to and including the deltoid muscle, it should be placed in a sling whenever the patient is sitting or standing; otherwise, it may swing out and throw the patient off balance, become painfully subluxed by the pull of gravity, or be injured because of the lack of sensation. Some therapists feel that the use of the sling inhibits spontaneous neurological recovery of the upper extremity, but this is not true. The arm should be put through a range of motion every day, but other than that, kept slinged. A special sling can be tailor-made, encasing the arm, sweeping over the shoulder and across the back to hook onto the hand (Fig 6). This prevents the weight of the paralyzed arm from pulling on the patient's neck, as occurs with the standard sling.

In occupation therapy, the patients are taught the daily activities of self-care. Stroke usually is not simple hemiplegia, and the resultant perceptual problems can be a severe detriment in trying to do simple things such as buttoning a shirt. Certain adaptations to clothing and other articles of wear are used. A patient's shoelaces may be replaced by a Velcro strap so that the patient can easily put on his shoe and buckle it with one hand. Bras are fixed so that they are buttoned from the front rather than the back, and sensible clothing is prescribed to make the patient independent in dressing. Activities of grooming can be taught, some in class, some individually. Homemaking is very important to those who will be going home to care for their families. With proper training, many things can be done with one hand. Prevocational activities such as writing, typing, and math should be included for pa-

6. Special sling keeps weight of paralyzed arm from pulling patient's neck.

tients who will go back to full or part-time employment.

In addition to physical and occupational therapies, speech therapy and social services are necessary. Communication problems are important whether they be mild aphasia for a salesman or dense aphasia for a patient who must communicate by using a picture book. On admission, each patient should be evaluated by the social worker. Discharge planning is initiated on the day of admission. Discussion with the family, concerning the patient's eventual disposition, is held. As problems arise financially, psychologically, or in provision of equipment, these are referred to the social service department.

Follow-up Care

When the patients are discharged, they are referred to a home health agency. This may be provided by the city or county health department or a voluntary or private agency. The home program is supervised by the visiting nurse and modified when needed to fit the home situation. Patients should be routinely reevaluated in 60 to 90 days to be sure that they are maintaining function at the level at which they were discharged. Patients should be taught home exercises in minute detail before their discharge. Prior to discharge, one or more weekend home evaluation visits allow the patient to try out his newly gained skills in the home environment. Unanticipated problems are brought back on Monday mornings to test the ingenuity of the therapists. Slowly the patient and the family familiarize themselves with the new family constellation which the stroke will impose after discharge. When final discharge does occur, the patient returns to a new role and a new life. He may not be returning to work, he may not even be walking, but he probably will be able to care for himself and do the multitude of simple tasks—the ones he never before considered "tasks"—independently, and with independence comes a quality of existence unknown to the bedridden invalid.

References

1. Krusen FH, Kottke FJ, Ellwood PM: Handbook of Physical Medicine and Rehabilitation. Philadelphia, WB Saunders, 1971, p 522.

2. Hirschberg GG, Lewis L, Thomas D: Rehabilitation. Philadelphia, JB Lippincott, 1964, pp 175-209.

Dr. Liss, Rehabilitation Associates of Houston, 9200 Westheimer, Houston, Texas 77042.

Texas Rehabilitation Commission
Help for cardiac and stroke patients

Jess M. Irwin, Jr; W. K. Harvey, Jr.

The word "rehabilitation" has become popular, and it now needs to be identified as to type so that we know exactly what we are talking about. The Texas Rehabilitation Commission is involved with vocational rehabilitation, and this may involve any of various other types of rehabilitation such as comprehensive, mental, medical, etc. We follow policies, and guidelines in order to be more or less uniform throughout the state and, for that matter, the entire United States.

First, the vocational rehabilitation program is a state-federal partnership with the federal financial share being about 80% and the state's obligation 20%. Naturally, there are federal guidelines and regulations to follow. State policies are valid only when they first conform to the federal policies, so we must have criteria concerning eligibility of individuals for our services. There are three such criteria and each must be met before funds can be spent for services. They are: (1) A physical or mental disability must exist. (2) The disability must be a handicap to employment. (3) Services rendered must reasonably be expected to return the individual to gainful employment.

Cardiac Patients

Suppose a person age 16 or older has a problem with his heart and is referred to a TRC office. The counselor first must determine whether the applicant meets the three criteria for eligibility. His first step is to get either a general physical examination or a copy or abstract of a recent medical record. This might include specialists' reports giving the exact diagnosis and prognosis of a condition. The counselor will then discuss the case with his local medical consultant to learn the meaning of the physical findings and how this condition affects the applicant's ability to work. He also explains what the recommended medical treatments or surgery imply as to returning the applicant to a gainful employment status.

From such a conference and other data concerning the person's work history, educational background, motivation, family background, etc, the counselor determines if the person is eligible.

TRC is not a medical rehabilitation agency as such. Persons may have heart conditions that can be improved medically, but still not to an extent which would permit gainful employment.

TRC can and does pay for the expenses incurred in determining eligibility. This includes the laboratory costs and the examination costs done by the physician. However, the arrangements must be made in advance by the counselor and a requisition written by him. TRC can't pick up the bill after the fact. Also, the physician and the applicant need to understand that this is our diagnostic phase and that our obligation may end at this point. This occasionally causes misunderstanding because the doctor assumes that the Commission is obligated for treatment.

If, after diagnosis, the counselor decides the applicant is eligible for services, he will make the applicant a client. The patient then can begin physical restoration. This includes hospitalization, medical and surgical treatment, purchase of appliances or prosthetics such as pacemakers, artificial valves, coronary bypass procedures, intensive care unit costs, anesthesia, x-ray, and electrocardiograms. Because of rather limited funds, we pay the surgeons only that part of their fee which our maximum affordable payment schedule allows. We

have limits, too, on laboratory and anesthesia services. The hospital is paid according to the official ratio of cost to charges rate.

Ideally, the patient recovers well enough to move into the next phase which could include counseling, guidance, evaluation, training, and placement in employment. If the client was a laborer but needs less strenuous work, TRC might retrain him—perhaps as a barber or for a sedentary occupation. Frequently, the morale of the individual is down; he may have gone on social security disability payments, or the welfare rolls. If this lasts too long, it may have become a satisfactory way of life for him. He may reason that it is safer to have a small income each month and not risk working than to make three times or more the amount financially, but be exposed to further physical risk. TRC depends entirely on physicians' advice as to a patient's tolerance or lack of tolerance for work, but, if the doctor gives the ok, then our counselor does all he can to motivate the client to become a taxpayer instead of a tax user.

In the fiscal year ending Aug 31, 1973, TRC served 2,649 individuals with the broad diagnosis of cardiovascular disorder. Of these, 367 were returned to gainful employment. Others also may have been rehabilitated during the following year.

The cardiovascular unit at The University of Texas Medical Branch at Galveston has been studying many cases involving heart surgery to establish criteria for selecting persons who probably will be successfully rehabilitated into a working situation.

Stroke Patients

TRC legally may accept stroke patients as clients if they meet the criteria; this means that their condition must be stabilized and they must reasonably be expected to return to gainful employment through rehabilitation.

A specialist's report is required for all disabling conditions of the neurological system, so that a plan can be written. This plan identifies the problem: it describes the disability and then sets forth the vocational goal to be reached and cites how the goal is to be reached. In order to write a plan, the counselor needs to know such things as:

1. Does a communication problem exist? Can this applicant communicate with others? Can he understand the speech of others? Is there a reading problem?
2. Is there a problem of locomotion? Can he walk unassisted, or does he need another person to aid in walking? Is a wheelchair needed? Can he operate it, or does he need a pusher?
3. What about his upper extremities? Is an arm paralyzed? Do all his fingers work, or are they weak? Can he write, type, press buttons? Can he dress and feed himself?
4. Does the stroke victim have associated problems such as impaired hearing, visual limitations, asthma, emphysema, heart disease, high blood pressure, or arteriosclerosis?
5. What is the prognosis? Can his condition be corrected by surgery?
6. What about his intellect? Can he reason abstractly, do mathematical exercises, count, add, subtract, multiply, divide?
7. Is he emotionally stable, or will he burst into temper fits or cry easily? Does he seem motivated to improve, or has he sunk into despair?
8. What about the attitude of his family? Do they wish to smother him in sym-

pathy, or do they resent having him as a problem?

9. Can he drive a car?

There are, of course, medical aspects that need to be weighed also. In addition, there are other aspects that need evaluation, for example:

1. What was his work status before the stroke? Did he do mental or physical work? Consider the difference between being a lawyer and being a brick mason.

2. Was he retired, or living off disability payments?

3. What proficiency level had he attained—was he a Chief type or one of the Indians? Was he a skilled worker in fine motion, a worker requiring keen judgment? Was he an educated or a professional person?

4. How near retirement is he? Does his company want him back? Does he qualify for disability benefits under the Social Security Act?

Each case must be handled as a distinct individual case. Since we know that much can be done for many stroke victims in regard to salvaging capabilities of the unaffected parts, we are willing to purchase services from physicians and others who can produce these results. We do not expect miracles, nor do we wish to accept all cases, especially where the known expectancy of good results is very low.

As an agency, we probably need to work with stroke victims more often. If the cases are selected properly, there should be some excellent results in reverting the suddenly disabled—the suddenly retired—back into the realm of the paycheck receiver.

Mr. Irwin, Commissioner; Mr. Harvey, Deputy Commissioner, Texas Rehabilitation Commission, 1600 West 38th St., Austin, Texas 78731.

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Precautions—Toxic amblyopia has been reported with long-term continuous use of ethchlorvynol. Permanent visual defects have been observed, although amblyopia has improved after discontinuation of the drug. Drug dosage should be limited for elderly and debilitated patients to the smallest effective amount. If pain is present, this drug should only be given if insomnia persists after pain is controlled with analgesics. Caution is advised in prescribing the drug for patients who are being treated with either MAO inhibitors or antidepressants. Transient delirium has been reported with the combination of Placidyl and amitryptyline. Drug dosage should be reduced if prescribed for patients receiving MAO inhibitors or antidepressants. Caution should be exercised in patients with impaired hepatic or renal function. Patients who respond unpredictably to barbiturates or alcohol, or who exhibit excitement and release of inhibition in association with such agents, may also react in this way to Placidyl. Rarely, patients may exhibit symptoms suggestive of an unusual susceptibility to the drug; such as prolonged hypnosis, profound muscular weakness, excitement, hysteria, or syncope without marked hypotension. Transient giddiness or ataxia may occur.

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Pediatric grand rounds
Pulmonary sequelae of respiratory distress syndrome

The advent of equipment for ventilatory therapy for premature and term newborns has contributed to the survival of these babies who, heretofore, had little or no chance to survive. There have evolved new disease entities that are iatrogenic in nature, and one must recognize and manage them. The sequelae of the respiratory distress syndrome and its therapeutic complications are discussed, and illustrative cases of long-term follow-up are described.

Dr. Michael Speer, Chief Pediatric Resident: This 5-month-old black male was born at home on Dec 16, 1972, to a 17-year-old primigravida. Her blood was type B, and serologic studies showed no abnormalities. Pregnancy was uncomplicated, but labor began in the 31st week and lasted two and one-half hours. The infant was admitted to Jefferson Davis Hospital four hours after birth and was in moderate respiratory distress. An umbilical artery catheter was inserted. Apnea occurred shortly after admission and controlled respiration via the Bourn's respirator was begun. Cultures of blood, cerebrospinal fluid, and urine were obtained and therapy with ampicillin and kanamycin was initiated. The initial chest x-ray demonstrated moderate hyaline membrane disease. Because of increasing carbon dioxide levels, positive end-expiratory pressure was instituted. On Dec 21, at 5 days of age, the infant was extubated and begun on oxygen by hood (concentrations ranged from 40-70% depending on the results of blood gas determinations). The infant remained under the oxygen hood until Jan 4, 1973, when respiratory distress and carbon dioxide retention required reintubation. On Jan 8 the tubes were removed. The x-rays which had initially showed improvement of the hyaline membrane disease pattern now demonstrated progressive cardiac enlargement with increasing pulmonary densities bilaterally. A cardiac murmur, first appreciated on Dec 27, was felt to represent a patent ductus and the patient was digitalized on Dec 30. X-rays on Jan 8 showed improvement of overall lung aeration, but with an area of atelectasis persisting in the upper right lobe which resolved by Jan 11. The infant appeared to be doing well with only minimal respiratory distress, although oxygen by hood was continued at approximately a 40% concentration. The antibiotics which were begun upon admission were discontinued on Jan 16. Radiographs at this time demonstrated minimal perihilar and peribronchial densities which, during the next several weeks, increased in size. Rales also were described at this time which remained present and were associated with increasing subcostal and intercostal retractions. On Jan 27, the infant sustained a respiratory arrest. Resuscitation was successful and after a sepsis work-up, antibiotics were begun again. Another respiratory arrest occurred later on the same day and it was felt that the baby was in congestive heart failure. Diuretics were instituted with good results. By Feb 3 the infant's condition had again stabilized and he had started to tolerate oral feedings. On Feb 20, because of continued improvement, Lanoxin was discontinued and the remainder of the month was relatively uneventful. On March 2, however, questionable x-ray changes suggestive of bronchopneumonia, coupled with renewed increase in respiratory effort and cough, prompted reinstitution of antibiotic therapy and an inhalation therapy program. After eight days the antibiotics were stopped, and on March 24 the infant was

A. A. Mintz, MD, Guest Editor
Michael Speer, MD
Ralph W. Rucker, MD
Gunyon Harrison, MD

transferred to the convalescent unit for continued care. Repeat x-ray of the chest on April 17 demonstrated resolution of all fibrolinear markings and pulmonary densities which had been noted previously.

Dr. Ralph W. Rucker, Fellow, Pediatric Pulmonary Disease Section, Texas Institute for Rehabilitation and Research: This subject is sufficiently broad to limit my comments primarily to oxygen use in the newborn, and to the pulmonary sequelae attributed to the use of oxygen. The pulmonary complications of hyaline membrane disease are of varying severity. First, upper airway obstruction following intubation has become a problem with increasing use of positive-pressure ventilators in sick neonates. It is, of course, more a complication of the treatment than of the illness. Primarily this is manifested as subglottic cicatricial stenosis of the trachea, due to ischemic pressure necrosis of the mucous membranes lining the cricoid ring. In addition, subglottic granulation tissue without stenosis and papillomas of the vocal cords also has occurred. This becomes manifest from two to six weeks following extubation, is related to the length of time the intratracheal tube is left in place, and is extremely difficult to treat. Occasionally, dilatation is useful, however, tracheostomy may be mandatory. The solution, of course, is prevention if possible, and with the use of the negative-pressure respirator this may be possible.

Pseudocyst and pneumothorax should be mentioned as they are events that can affect the infant's acute course, but have essentially no long-term affects. Pseudocyst is a pneumatocele-appearing parenchymal structure which usually spontaneously resolves, but may rupture to produce a pneumothorax. Pneumothorax itself is easily treated if recognized, and is related to the stiff, noncompliant lung of this disease. It has a much greater incidence in respirator-treated babies and should be anticipated with this mode of therapy.[1]

Wilson-Mikity syndrome is a disputed illness manifesting as the gradual onset of respiratory distress in a premature infant with a "bubbly" radiographic pattern. Confusion continues to dominate the etiology, however it does not appear to be bronchopulmonary dysplasia,[2] although some dispute this. Stahlman feels that it may be a local virus in Wilson's nursery, and that the epidemiology people should investigate it![3]

Before we discuss the last entity, bronchopulmonary dysplasia, a discussion of oxygen usage in the child with hyaline membrane disease is indicated. Hyaline membrane disease is characterized pathologically by hyalinization of the bronchiolar and alveolar-duct epithelium and exudation of protein-containing fluid into damaged areas. Absence of pulmonary surfactant is associated with the development of atelectasis from which many of the functional derangements follow. It has been suggested that these events stem from a prenatal event which initiated pulmonary arteriolar constriction, with loss of nutritional blood supply to the lung.[4] Functionally, we see hypoxemia as the primary defect, and it has been shown that the arterial oxygen is the single most important clinical criterion for survival.[5]

Hypoxemia can be caused by four cardiopulmonary derangements: (1) simple hypoventilation; (2) diffusion barriers; (3) true anatomic venoarterial shunting, such as perfusion past totally nonventilated lung tissue, foramen ovale, ductus arteriosus, or bronchial circulation; and (4)

ventilation-perfusion inequalities throughout the lung. It is often possible to distinguish the contribution of these factors by having the patient breathe 100% oxygen, as this essentially eliminates any diffusion barriers or ventilation-perfusion inequalities by virtue of the high inspired oxygen pressures. The contribution of hypoventilation can be assessed by the $Pa_{CO(2)}$; low values seldom occur early in hyaline membrane disease. Thus, we are left with veno-arterial shunting as the most significant cause of the hypoxia, primarily a reflection of perfusion past atelectatic alveoli. Adding to this association is pulmonary vasoconstriction, with flow through the foramen ovale and the ductus. Most of this occurs through the lung and the foramen ovale, with relatively little through the ductus.[6,7]

The measurement of oxygen transport across the lungs involves two equations:

(1) Alveolar Oxygen Equation

$$P_AO_2 = [P_{BA} - P_{H(2)O}]\ F_iO_2 - \frac{Pa_{CO(2)}}{0.8}$$

(2) Shunt Equation

$$\frac{Qs}{Qt} = \frac{(A - a)\ 0.003}{(a - \bar{v}O_2\ diff) + (A - a)\ 0.003}$$

The first is the alveolar oxygen equation with which one can relate three important variables: the inspired oxygen concentration, the arterial carbon dioxide pressure, and the resultant alveolar oxygen pressure. One needs to know the barometric pressure (P_{BA}), the partial pressure of water vapor ($P_{H(2)O}$) (47 mm Hg), and the inspired oxygen concentration (F_iO_2). We are assuming that the arterial carbon dioxide and the alveolar carbon dioxide are the same, which they almost always are. The point of this equation is that from this you can derive the alveolar-arterial oxygen gradient (A-aDO_2). This value is obtained by utilizing 100% inspired oxygen for 15 minutes and obtaining an arterial specimen for oxygen pressure, then calculating the P_AO_2 from equation one.

The second equation is the shunt equation, which determines the percent of total cardiac output that is being shunted through two mechanisms, perfusion past nonventilated alveoli and the small contribution of the foramen ovale and ductus. This equation can be used if the arterial oxygen pressure is greater than 150, because at that level 100% saturation of the hemoglobin is assumed. The difficulty with this equation lies with the arteriovenous oxygen content difference. This is difficult to measure, as the only true venous mixing of blood in the body is thought to be in the main pulmonary artery. This, of course, is not readily accessible, but one can utilize averages using right ventricular blood, the next best source of mixed venous blood. This shunt valve is also used to follow the progress of the patient.

Several studies have shown the alveolar-arterial oxygen gradient in normal newborns to be 28-31 mm Hg,[8,9] in prematures to be 213-358 mm Hg, and in the respiratory distress syndrome to be 439-557 mm Hg.[7,10] It is important that Thibeault in 1967 showed that the A-aDO_2 was a fairly reliable predictor of improvement, coming down below 100-150 mm Hg in four to six days in survivors of the respiratory distress syndrome. In addition, it has been shown that the percentage of shunted blood in normal babies is 16-22%, whereas in hyaline membrane disease there is invariably a higher percentage of shunted blood.[4] This declines as the baby improves, barring complications. As it is difficult to get mixed venous blood to obtain the arteriovenous oxygen content difference, shunt determination often is not

a useful clinical tool in the evaluation of these infants.

Bronchopulmonary Dysplasia

Pathologically, the classification of bronchopulmonary dysplasia by Northway in 1967 correlates moderately well with the clinical circumstances.[11]

Stage 1 is at two to three days. The baby has hyaline membrane disease and acute respiratory distress. The x-ray is classic. The pathologic changes involve hyaline membranes, hyperemia, atelectasis, and lymphatic dilatation.

The next is stage 2, the period of regeneration, lasting up to ten days. These are babies that are still quite ill. Some of them require respirators and they almost all require high oxygen. The x-ray at the time shows nearly complete opacification. Pathology at this stage shows persisting hyaline membranes, patchy bronchiolar necrosis, and patchy squamous metaplasia.

Stage 3 goes up to about three weeks. Here, most babies go off the respirators, but require oxygen. X-rays show small round areas of radiolucency of both lungs, and pathologically there are fewer hyaline membranes. The child still has widespread bronchiolar mucosal metaplasia, and circumscribed areas of emphysematous alveoli surrounded by atelectatic alveoli.

Stage 4 is the chronic disease we mostly think about beyond the age of one month. Some of these babies are still on oxygen. X-rays show enlargement of the previous radiolucent areas with dense strands of fibrotic-type streaking, as well as an increase in heart size. Many of them will have congestive heart failure and some will die of congestive heart failure at this stage. Hypertrophy of the peribronchiolar smooth muscles is shown on pathologic specimens. There is some perimucosal fibrosis, with separation of the capillaries from alveolar epithelium. There are often the early vascular changes of pulmonary hypertension.

Credit for the increased awareness of oxygen as a possible pathologic factor to the lungs during and following hyaline membrane disease should go to Northway in description of bronchopulmonary dysplasia in 1967.[11] He described infants treated with positive pressure respirators; only 4 of 13 with high-dose oxygen longer than six days survived, and all had chronic pulmonary disease. Of nine of the infants treated with oxygen less than six days, only one had any residual lung disease, and that was associated with subglottic stenosis. In support of his contention that the culprit was oxygen, he cites numerous studies where pulmonary toxicity to animals' lungs is demonstrated with concentration above 60%. Oxygen toxicity studies in man have shown changes as described for hyaline membrane disease, but there appears to be considerable overlap in pathologic appearance. In a later paper, Northway states that he had found the same radiographic and histologic entities in infants ventilated with high-dose oxygen who did not have hyaline membrane disease as well as in other infants given high-dose oxygen without artificial ventilation.[12]

In conflict with this, Stern, in his extensive experience with the use of negative-pressure respirators in the management of respiratory distress syndrome even in the presence of high-dose oxygen, has not seen this pattern of lung injury. Because of this, he strongly believes that the use of a positive-pressure respirator and/or

intratracheal intubation is necessary for its appearance.[13]

In Stahlman's babies (Nashville), reliable documentation of pneumonia or bronchiolitis in the two-year followup period has the same incidence in respirator babies as nonrespirator babies, even though the respirator group had a significantly longer and more intense course of oxygen treatment. Stahlman also used negative pressure respirators, and 6 of 19 babies who had abnormal x-rays suggestive of fibrosis, overexpanded lung fields, and infiltrates all were treated with the respirator and were more hypoxic and required longer oxygen exposure than the others.[14] In a more recent study, after a six-year followup, she noted that 52% of the respirator-treated infants had some degree of residua, ranging from minimal x-ray changes to unexplained wheezing episodes. Only three children, however, have had severe problems with residual wheezing and pneumonitis, and these all had been intubated and had received the highest oxygen dosages. The length of time and concentration of oxygen were not significantly different between those children with abnormal chest x-rays at age six and those with normal films. The same lack of significant difference was noted for the pulmonary function tests at this age.[15]

There still remain unsolved questions as to the degree of effect of oxygen administration, respirator therapy, endotracheal intubation, infection, or other iatrogenic manipulations. In view of the probable etiology of hyaline membrane disease, survival of these sick infants has to be associated with a reparative process resulting in peribronchial and alveolar fibrosis that could, in turn, result in pulmonary fibrosis and overexpansion. That our treatments can actually worsen the injury is not in doubt, as shown by Northway's cases. That modifications in our treatment can lessen the incidence and severity of residual pulmonary lesions while still maintaining good survival rates has been shown by Stahlman. For example, use of the negative-pressure respirator will obviate any contribution by positive-pressure gas and intubation, and therefore will probably be the treatment of choice in the near future. The long-term effects of continuous negative pressure and constant positive airway pressure have yet to be evaluated. Even after all these changes in therapy, however, we will still be left with a certain number of children with chronic pulmonary disease.

Dr. Gunyon Harrison, Director, Pediatric Pulmonary Disease Section, Texas Institute for Rehabilitation and Research: With some reservations, I believe Dr. Rucker's predictions will be right. First, I think that we should all realize that an infant who has severe, diffuse, pulmonary pathologic changes, whether it be from strict hyaline membrane origin or from pneumonia primary or secondary to aspiration, and requires prolonged resuscitation with or without the need of a high concentration of oxygen, may well have long-term pulmonary pathologic changes, with clinical evidence of varying degrees of pulmonary residual. This is evident in radiological changes, in ventilation-perfusion abnormalities, as indicated by a lung scan and by clinical evidence in infants who have been ventilated for a week or more utilizing high inspired oxygen concentrations. It is evident also in infants who have not been on a resuscitator but have spent an extensive period of time in a high oxygen environment (75% to 100%).

I have three cases to present:

Case 1: This infant was transferred to the intensive care unit at the age of 36 hours. He was in significant respiratory distress and his roentgenogram was compatible with hyaline membrane disease. Arterial blood analysis revealed a PaO_2 of 40 mm Hg, and it was decided to place him on constant positive airway pressure. He was maintained on 100% F_iO_2 initially, and after 48 hours his F_iO_2 gradually was reduced to 50%. The total time of intubation and constant positive airway pressure was eight days. Following extubation, the infant was placed in an oxygen hood with an F_iO_2 of 40%. Arterial blood at this time revealed a $Pa0_2$ of 68 mm Hg. It is not necessary to maintain PaO_2 levels on neonates during the first week or ten days of life in the 90 to 100 mm Hg level, since the PaO_2 level in a neonate normally ranges from 65 to 80 mm Hg. To do so may, as has been shown, result in pathological changes in the lung tissue. This child was discharged on the 15th day of life and has been seen every three months since discharge. He consistently has a respiratory rate of 40-50 breaths/minute. He exhibits minimal costophrenic retractions and has had several episodes of increased respiratory distress associated with viral respiratory tract infection. Serial chest x-rays continue to show bilateral diffuse hyperlucency with some progressive improvement. Based on his clinical status and diffuse involvement as indicated by sequential x-rays, I think there is no question that this youngster was left with some degree of alveolar and small bronchial disease which has slowly responded to inhalation respiratory therapy and/or time alone.

Case 2: A 4-month-old infant was referred to us by cardiologists because of chronic respiratory problems secondary to respiratory distress syndrome. He had been treated during the first 4-5 days of life with bagging and high oxygen concentration. X-rays at age 4 months revealed areas of hyperlucency interspersed with small areas of infiltrate. His respiratory rate was in the range of 60 breaths/minute with moderate costophrenic inspiratory retractions. We prescribed for this infant a respiratory care program directed primarily at prevention of stasis of secretions and prophylaxis of infection of the tracheobronchial tree. During two years, this youngster slowly improved clinically and his x-rays showed gradual return to normal. He is now four years old, his respiratory rate is normal, his physical tolerance is normal, and he is no longer vulnerable to respiratory infections. His last x-ray was normal. Therefore, patients with respiratory distress syndrome may have long-term sequelae associated with being placed in high oxygen concentration but without intervention of the endotracheal tube and respiratory assistance. A detailed and comprehensive home respiratory care program directed toward preventing stasis and tracheobronchial infection is of definite assistance in permitting these youngsters to return to normal.

Case 3: This infant developed the respiratory distress syndrome in the first 18 hours of life, and because of progressive deterioration was placed on the Bourn's Infant Respirator with positive end-expiratory pressure. This infant survived multiple severe complications including obstruction of the airway, pneumothorax, lung abscess, intermittent episodes of atelectasis, and bronchopneumonia. In trying to treat these various severe complications, we kept this infant's endotracheal tube in place for 76 days. During this period there were intermittent times when the F_iO_2 was

in excess of 70%. There remained evidence of pulmonary disease radiologically, with bilateral areas of pulmonary hyperlucency interspersed with small areas of infiltrate. In addition, he developed a high subglottic stenosis requiring a tracheotomy tube. In spite of the severity and the multiplicity of complications, since discharge he has returned to the hospital for intensive therapy only once, for an episode of acute tracheobronchial infection.

In summary, we have presented three cases of respiratory distress syndrome and three different management programs. The first was with endotracheal intubation and constant positive airway pressure; the second with intermittent bagging and a high oxygen environment for a significant length of time; and the third with endotracheal intubation, controlled ventilation, positive end-expiratory pressure, and a high oxygen concentration. The common denominator in all three cases was the administration of oxygen in high concentration for more than 48 hours. Whether the combination of the severity of the respiratory distress syndrome plus the high F_iO_2 for extensive periods of time are the major ingredients for pulmonary sequelae in these individuals or not remains to be seen from future statistics. We believe, however, that a comprehensive home care respiratory program with frequent reevaluation by the chest program staff is sufficient to prevent severe or frequent respiratory exacerbations. The child will slowly respond to this program and gradually return to a normal radiographic status and a normal clinical status.

References

1. Weller MH: The roentgenographic course and complications of hyaline membrane disease. Pediat Clin N Amer 20: 381-406, 1973.

2. Mikity VG, Taber P: Complications in the treatment of the respiratory distress syndrome. Bronchopulmonary dysplasia, oxygen toxicity, and the Wilson-Mikity syndrome. Pediat Clin N Amer 20:419-431, 1973.

3. Stahlman M: Personal communication.

4. Chu J, Clements JA, Cotton EK, et al: Neonatal pulmonary ischemia. Part I: Clinical and physiological studies. Pediatrics (Supp) 40:709-782, 1967.

5. Stahlman MT, Battersby EJ, Shepard FM, et al: Prognosis in hyaline-membrane disease: Use of a linear-discriminant. New Engl J Med 276:303-309, 1967.

6. Nelson NM: Compromised convalescence from hyaline membrane disease. Pediatrics 44:158-161, 1969.

7. Thibeault DW, Poblete E, Auld PAM: Alveolar-arterial oxygen difference in premature infants breathing 100 per cent oxygen. J Pediat 71:814-824, 1967.

8. Koch G: Alveolar ventilation, diffusing capacity, and the A-a PO_2 difference in the newborn infant. Respir Physiol 4:168-192, 1968.

9. Nelson NM, Prod'hom LS, Cherry RB, et al: Pulmonary function in the newborn infant. I. Methods: Ventilation and gaseous metabolism. Pediatrics 30:963-974, 1962.

10. Woodrum DE, Oliver TK, Hodson WA: The effect of prematurity and hyaline membrane disease on oxygen exchange in the lung. Pediatrics 50:380-386, 1972.

11. Northway WH, Rosan RC, Porter DY: Pulmonary disease following respirator therapy of hyaline-membrane disease. Bronchopulmonary dysplasia. New Engl J Med 276:357-368, 1967.

12. Northway WH, Rosan RC: Oxygen therapy hazards in the neonate. Hosp Pract 4:59-69, 1969.

13. Stern L: The use and misuse of oxygen in the newborn infant. Pediat Clin N Amer 20:447-464, 1973.

14. Shepard FM, Johnston RB, Klatte EC, et al: Residual pulmonary findings in clinical hyaline-membrane disease. New Engl J Med 279:1063-1071, 1968.

15. Stahlman M, Hedvall G, Dolanski E, et al: A six-year follow-up of clinical hyaline membrane disease. Pediat Clin N Amer 20:433-446, 1973.

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Reprints are not available from the authors.

Controversy over drug therapy of adult-onset diabetes mellitus

Phillip L. Poffenbarger, MD

Despite the considerable controversy over the University Group Diabetes Program (UGDP) study, tolbutamide appears to possess potential cardiac toxicity in man when administered chronically in a fixed dose of 1,500 mg daily. It is not clear if other sulfonylureas should be similarly implicated. This conclusion should temper the long-term use of tolbutamide in the management of glucose control in the adult-onset diabetic.

It is estimated that 4.4 million persons in the United States have diabetes mellitus,[1] and that 2 to 3 million of these individuals take one of the oral antidiabetic drugs for control of their hyperglycemia.[2] For the past three years physicians have been faced with a therapeutic dilemma: Do the oral agents used in the management of the stable diabetic (not prone to ketoacidosis) cause cardiac toxicity?

This dilemma has its origin in the University Group Diabetes Program (UGDP) study which was published, after several premature news releases, as a supplement to the November 1970 issue of *Diabetes*.[3] This prospective clinical study was begun in February 1961 to determine the effect of blood glucose control on the development of vascular complications and to determine the natural course of the disease in the nonketoacidosis-prone diabetic. The 823 diabetic patients enrolled in the UGDP study were randomized into four study groups and observed for five to eight years. In the fourth year of the study, increased cardiovascular mortality began to appear in the tolbutamide-treated group; by the eighth year, ten cardiovascular deaths had occurred among the 205 individuals in the placebo group, 13 among 210 in the fixed-dose insulin group, 12 among 204 in the variable-dose insulin group, and 26 among 204 in the fixed-dose tolbutamide group. This increased cardiovascular mortality in the tolbutamide-treated group was significantly greater than the other groups, and it was deemed necessary by the UGDP to discontinue use of tolbutamide in the study. A later addition to the study, a fixed-dose phenformin-treated group, has also experienced increased cardiovascular mortality.[4]

The results of this study have been the subject of intense public debate and several published reanalyses.[5-10] Generally, two polarized groups have characterized the debate. In one group are those physicians who believe the study results are invalid and should not influence our previously accepted guidelines for the use of oral agents. In the other group are those physicians who believe strict curtailment of the use of oral agents is warranted. Between these two groups of debating physicians are the great majority of practicing physicians who remain uncertain.

It is clear that the issue will not be completely resolved by public debate or by further analysis of the study, and it is unlikely that another large-scale prospective clinical study will be funded. The controversy will probably be settled only by the further accumulation of basic research data that bear on the problem.

What guidelines, then, should the practicing physician select in determining appropriate pharmacologic therapy for the stable diabetic? In order to arrive at an interim answer to that question, it is first necessary to briefly outline and consider the major points of attack against the UGDP study and then place the controversy into current scientific perspective.

Major Problems in Patient Selection and Comparability of Treatment Groups

There have been several criticisms of the UGDP study relating to certain aspects of the patient selection process; however, the randomization of patients recruited into

the UGDP study weakens most attacks on this aspect of the study since the errors that occurred were randomized to all study groups. It is true, for example, that early in the study, 69 patients were admitted (and randomized) who did not fulfill the diagnostic criteria established for the diagnosis of adult-onset diabetes mellitus and that these patients were continued in the study. If these inappropriate patients had been dropped, however, the mortality differences for the tolbutamide group would have been even more magnified.[8] From a statistical viewpoint it was appropriate to leave the data from these patients in the final analysis.

Baseline characteristics of the patients comprising the four treatment groups have been scrutinized repeatedly because it appeared that the tolbutamide group was excessively weighted with high-risk factors for cardiac mortality. These small differences, however, have been extensively analyzed and are not significant. Furthermore, if the high-risk individuals in the tolbutamide group are removed from the statistical analysis, significant cardiovascular mortality is still found.

In these respects, then, the validity of the UGDP study is maintained. Problems of missing baseline data and failure to collect important baseline data, such as smoking habits and antecedent myocardial infarction, are worrisome but are diminished by the patient randomization process and do not render the study invalid.

Major Problems in Execution of Study

The two overriding issues here are the use of a fixed 1,500-mg tolbutamide dose and the late entry of the phenformin group into the study protocol.

The UGDP considers that the *fixed dose* of tolbutamide could not explain the increased cardiovascular mortality in that group.[10] This may not be the case. The genetically determined ability of the subjects to metabolically inactivate tolbutamide must be defined before such a conclusion stands firm.[11] It is entirely conceivable that extrapancreatic effects of tolbutamide could persist long after any observable blood glucose lowering effect, and in a genetic group of "slow tolbutamide inactivators" these effects might be more pronounced, related to a higher tolbutamide blood level. The UGDP data does support this possibility and one should conclude that when blood glucose control is no longer achieved by the administration of tolbutamide, the agent should be discontinued. Another way of viewing this problem is to postulate a genetically distinct subgroup of patients highly susceptible to the extrapancreatic effects of the drug, especially if it is administered in a fixed dose for a long time without regard for blood glucose control.

The late entry of a phenformin study group has created a "two-pool" problem in data analysis which some[6,8] but not all statisticians[4,7] perceive as potentially invalidating. It does not appear to affect the analysis of the original four study groups[3,10] since each of the 12 cooperating clinics contributed equally to these groups. The difficulty with comparative analysis of the phenformin group has not been clearly detailed to date.

Problems with Clinical Implications of the UGDP Study

The study probably was not suited to answer the controversial question concerning strict versus lenient control of blood glucose in the management of diabetes mellitus. First, blood glucose was not controlled in the normal range in the study patients except for about one-half of the insulin-variable group. Second, diabetes is genetically a life-long process that is diagnosed at variable times in the life of a nonketoacidosis-prone individual, depending upon many factors. It is not possible to conclude that the patients selected for study were recent onset diabetics. In this respect, the UGDP study probably repre-

sents an elegant documentation of the pathophysiological processes marking the middle and terminal phases of the disease, and modest variations in blood glucose concentration will not discriminate a difference in treatment groups at this stage.

The decision by various groups (FDA, AMA Council on Drugs, ADA) to implicate all sulfonylureas as potentially cardiotoxic even though tolbutamide was the only agent studied is supported by the fact that they are structurally similar and presumably exert their effects in an analogous fashion. Lasseter et al[12] has recently strengthened this decision by demonstrating that tolbutamide, acetohexamide, chlorpropamide, and tolazamide all stimulate rabbit myocardial contractility by producing an increase in cyclic 3', 5'-AMP. Against this decision may be cited the previously posed argument that cardiac toxicity may be related to chronically elevated blood levels, and the sulfonylureas most certainly will vary in this regard since their routes of catabolism differ. Furthermore, interesting differences in extrapancreatic effects of sulfonylureas already have been described. Acetohexamide, for example, is a potent uricosuric agent whereas the other sulfonylureas have no uricosuric action.[13] Finally, tolbutamide and chlorpropamide exert antidiuretic activity but glyburide, acetohexamide and tolazamide enhance water excretion.[14] Clearly, significant differences exist in the extrapancreatic effects of the various sulfonylureas. At the present stage of our knowledge it is not possible to extrapolate cardiotoxicity to all sulfonylureas.

Conclusions

1. The existing controversy over the use of oral agents in the management of diabetes mellitus will not be completely resolved by continued public debate and reanalysis of the UGDP study. It may eventually be resolved by further basic research.

2. The UGDP study was an enormous pioneering clinical investigation. Several problems in experimental design and data analysis have been disclosed. In my opinion, these problems do not invalidate the mortality results. Clinicians are faced with the need to consider potential cardiac toxicity against the blood glucose lowering effects of tolbutamide and phenformin when confronted with a decision regarding long-term therapeutic measures.

3. It is not clear from the available information if other sulfonylurea derivatives possess potential myocardial toxicity.

4. Statements concerning the effect of blood glucose *control* on morbidity and mortality in adult-onset diabetes mellitus must be viewed cautiously. Asymptomatic mild hyperglycemia may exist intermittently for years and inflict pathologic damage; in this sense, the study may reflect more a documentation of the middle and terminal events of a life-long pathologic process.

References

1. Diabetes Source Book. US Department of Health, Education, and Welfare. Washington, DC, US Government Printing Office, 1969.

2. Tolbutamide (Orinase) and diabetes. Medical Letter 12:97-98, 1970.

3. The University Group Diabetes Program: A study of the effects of hypoglycemic agents on vascular complications in patients with adult-onset diabetes. Diabetes 19:747-830 (suppl 2), 1970.

4. The University Group Diabetes Program: A study of the effects of hypoglycemia agents on vascular complications in patients with adult-onset diabetes. IV. A preliminary report on phenformin results. JAMA 217:777-784, 1971.

5. Schwartz TB: The tolbutamide controversy: A personal perspective. Ann Int Med 75:303-306, 1971.

6. Schor S: The University Group Diabetes Program: A statistician looks at mortality results. JAMA 217:1671-1675, 1971.

7. Cornfield J: The University Group Diabetes Program: A further statistical analysis of the mortality findings. JAMA 217:1676-1678, 1971.

8. Feinstein AF: Clinical biostatistics. VIII. An analytic appraisal of the University Group Diabetes Program (UGDP) study. Clin Pharmacol Therapeut 12:167-191, 1971.

9. Seltzer HS: A summary of criticisms of the findings and conclusions of the University Group Diabetes Program (UGDP). Diabetes 21:976-979, 1972.

10. Prout TE, Knatterud GL, Meinert CL, et al: The UGDP controversy: Clinical trials versus clinical impressions. Diabetes 21:1035-1040, 1972.

11. Vesell ES: Advances in pharmacogenetics. Prog Med Genet 9:219-351, 1973.

12. Lasseter KC, Levey GS, Palmer RF, et al: The effect of sulfonylurea drugs on rabbit myocardial contractility, canine Purkinje's fiber automaticity and adenyl cyclase activity from rabbit and human hearts. J Clin Invest 51:2429-2434, 1972.

13. Yu TF, Berger L, Gutman AG: Hypoglycemic and uricosuric properties of acetohexamide and hydroxyhexamide. Metabolism 17:309-316, 1968.

14. Moses AM, Howanitz J, Miller M: Diuretic action of three sulfonylurea drugs. Ann Int Med 78:541-544, 1973.

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Recommendations† on Combination Live Virus Vaccines

American Academy of Pediatrics

Committee on Infectious Diseases

In the September 15, 1971 *AAP Newsletter* sent to Academy members, the Committee on Infectious Diseases of the American Academy of Pediatrics stated its recommendations on the use of combination live virus vaccines. After a careful review of available data, the committee concluded that:

- "This information indicates that the products are both safe and effective when used as directed."
- The vaccine "...can, therefore, be recommended with the obvious advantages of reduction in the number of injections for any given child and a concomitant decrease in the required visits to a physician's office or clinic."

†For complete text of both recommendations see your MSD representative or write to Professional Service Dept., Merck Sharp & Dohme, West Point, Pa. 19486.

United States Public Health Service

Advisory Committee on Immunization Practices

In the April 24, 1971 issue of *Morbidity and Mortality Weekly Report*, the Advisory Committee on Immunization Practices of the United States Public Health Service presented recommendations on the use of combination live virus vaccines. The committee stated that:

- "Data indicate that antibody response to each component of these combination vaccines is comparable with antibody response to the individual vaccines given separately.
- "There is no evidence that adverse reactions to the combined products occur more frequently or are more severe than known reactions to the individual vaccines (see pertinent ACIP recommendations).
- "The obvious convenience of giving already selected antigens in combined form should encourage consideration of using these products when appropriate."

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Given at age 12 months, M-M-R provides for vaccination early in life against measles, mumps, and rubella.

MSD suggested immunization schedule for well babies	
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2 months	DPT (diphtheria-pertussis-tetanus) Oral poliomyelitis vaccine (triple)
3 months	DPT[1]
4 months	DPT Oral poliomyelitis vaccine (triple)
6 months	Oral poliomyelitis vaccine (triple)
12 MONTHS	**M-M-R (MEASLES, MUMPS AND RUBELLA VIRUS VACCINE, LIVE, MSD)**

1. This vaccination may be given at 3 months, 5 months, or at 6 months, depending on your preference or on the condition of the child.

Since vaccination with a live virus vaccine may depress the results of a tuberculin test for four weeks or longer, the test and the vaccine should not be given during the same office visit.

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For a brief summary of prescribing information, please see following page.

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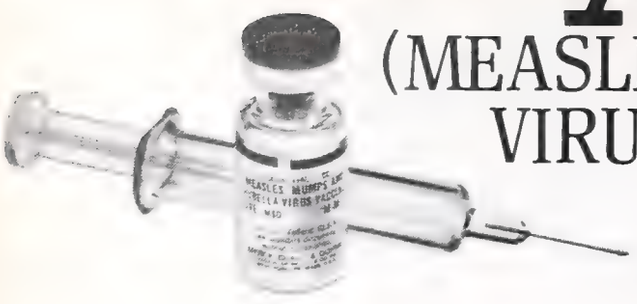

Contraindications: Pregnancy or possibility of pregnancy within three months following vaccination; infants less than one year old; sensitivity to chicken or duck, chicken or duck eggs or feathers, or neomycin; any febrile respiratory illness or other active febrile infection; active untreated tuberculosis; therapy with ACTH, corticosteroids, irradiation, alkylating agents, or antimetabolites; blood dyscrasias, leukemia, lymphomas of any type, or other malignant neoplasms affecting the bone marrow or lymphatic systems; gamma globulin deficiency, i.e., agammaglobulinemia, hypogammaglobulinemia, and dysgammaglobulinemia.

Precautions: Administer subcutaneously; *do not give intravenously.* Epinephrine should be available for immediate use should an anaphylactoid reaction occur. Should not be given less than one month before or after immunization with other live virus vaccines, with the exception of monovalent or trivalent poliovirus vaccine, live, oral, which may be administered simultaneously; vaccination should be deferred for at least three months following blood transfusions or administration of more than 0.02 ml immune serum globulin (human) per pound of body weight, or human plasma.

Due caution should be employed in children with a history of febrile convulsions, cerebral injury, or any other condition in which stress due to fever should be avoided. The physician should be alert to the temperature elevation which may occur 5 to 12 days after vaccination.

Excretion of the live attenuated rubella virus from the throat has occurred in the majority of susceptible individuals administered the rubella vaccine. There is no definitive evidence to indicate that such virus is contagious to susceptible persons who are in contact with the vaccinated individuals. Consequently, transmission, while accepted as a theoretical possibility, has not been regarded as a significant risk.

Attenuated live virus measles, mumps, and rubella vaccines, given separately, may temporarily depress tuberculin skin sensitivity; therefore, if a tuberculin test is to be done, it should be scheduled before vaccination, to avoid the possibility of a false negative response.

Before reconstitution, refrigerate vaccine at 2–8 C (35.6–46.4 F) and *protect from light.* Use only diluent supplied to reconstitute vaccine. If not used immediately, return reconstituted vaccine to refrigerator at 2–8 C (35.6–46.4 F), and discard after eight hours.

Adverse Reactions: To date, clinical evaluation has not revealed any adverse reactions peculiar to the combination. The adverse reactions that occurred were limited to those that have been reported previously for the component vaccines.

Fever, rash; mild local reactions such as erythema, induration, tenderness, regional lymphadenopathy; parotitis; thrombocytopenia and purpura; allergic reactions such as urticaria; arthritis, arthralgia, and polyneuritis.

Occasionally, moderate fever (101–102.9 F); less commonly, high fever (above 103 F); rarely, febrile convulsions.

Encephalitis and other nervous system reactions that have occurred very rarely with the individual vaccines may also occur with the combined vaccine. Experience from more than 44 million doses of all live measles vaccines given in the U.S. by mid-1971 indicates that significant central nervous system reactions such as encephalitis, occurring within 30 days after vaccination, have been temporally associated with measles vaccine approximately once for every million doses. In no case has it been shown that reactions were actually caused by vaccine. The Center for Disease Control has pointed out that "a certain number of cases of encephalitis may be expected to occur in a large childhood population in a defined period of time even when no vaccines are administered. A survey conducted in New Jersey in 1965 showed that 2.8 cases of encephalitis (of unknown cause) occurred per million children, ages 1–9 years per 30-day period." However, the Center for Disease Control has analyzed the reported reactions following measles vaccines and pointed out that "the clustering of cases in the period 6 through 13 days after inoculation as well as the recovery of measles virus (probably the vaccine strain) from the CSF of one patient does suggest that some of these cases may have been caused by the vaccine." The risk of such serious neurological disorders following live measles virus vaccine administration remains far less than that for encephalitis with measles (one per thousand reported cases).

Transient arthritis, arthralgia, and polyneuritis are features of natural rubella and vary in frequency and severity with age and sex, being greatest in adult females and least in prepubertal children. Such reactions have been reported with live attenuated rubella virus vaccines. Symptoms relating to joints (pain, swelling, stiffness, etc.) and to peripheral nerves (pain, numbness, tingling, etc.) occurring within approximately two months after immunization should be considered as possibly vaccine related. Symptoms have generally been mild and of no more than three days' duration. The incidence in prepubertal children would appear to be less than 1% for reactions that would interfere with normal activity or necessitate medical attention.

How Supplied: Single-dose vials of lyophilized vaccine, containing when reconstituted not less than 1,000 $TCID_{50}$ (tissue culture infectious doses) of measles virus vaccine, live, attenuated, 5,000 $TCID_{50}$ of mumps virus vaccine, live, and 1,000 $TCID_{50}$ of rubella virus vaccine, live, expressed in terms of the assigned titer of the FDA Reference Measles, Mumps, and Rubella Viruses, and approximately 25 mcg neomycin, with a disposable syringe containing diluent and fitted with a 25-gauge, ⅝" needle. Also in boxes of 10 single-dose vials nested in a pop-out tray with a separate box of 10 diluent-containing syringes.

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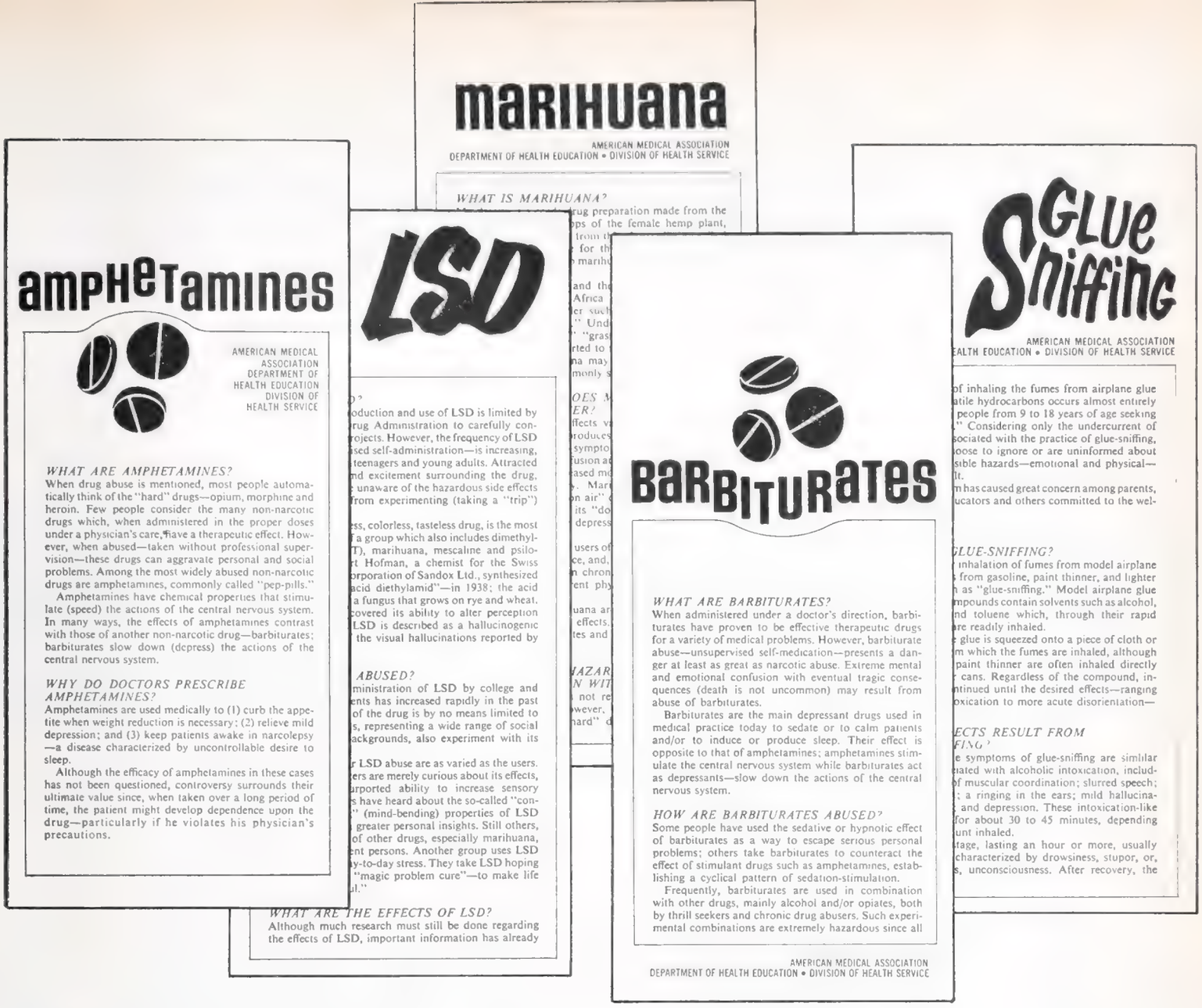

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Indications: Tension and anxiety states; somatic complaints which are concomitants of emotional factors; psychoneurotic states manifested by tension, anxiety, apprehension, fatigue, depressive symptoms or agitation; symptomatic relief of acute agitation, tremor, delirium tremens and hallucinosis due to acute alcohol withdrawal; adjunctively in skeletal muscle spasm due to reflex spasm to local pathology, spasticity caused by upper motor neuron disorders, athetosis, stiff-man syndrome, convulsive disorders (not for sole therapy).

Contraindicated: Known hypersensitivity to the drug. Children under 6 months of age. Acute narrow angle glaucoma; may be used in patients with open angle glaucoma who are receiving appropriate therapy.

Warnings: Not of value in psychotic patients. Caution against hazardous occupations requiring complete mental alertness. When used adjunctively in convulsive disorders, possibility of increase in frequency and/or severity of grand mal seizures may require increased dosage of standard anticonvulsant medication; abrupt withdrawal may be associated with temporary increase in frequency and/or severity of seizures. Advise against simultaneous ingestion of alcohol and other CNS depressants. Withdrawal symptoms (similar to those with barbiturates and alcohol) have occurred following abrupt discontinuance (convulsions, tremor, abdominal and muscle cramps, vomiting and sweating). Keep addiction-prone individuals under careful surveillance because of their predisposition to habituation and dependence. In pregnancy, lactation or women of childbearing age, weigh potential benefit against possible hazard.

Precautions: If combined with other psychotropics or anticonvulsants, consider carefully pharmacology of agents employed; drugs such as phenothiazines, narcotics, barbiturates, MAO inhibitors and other antidepressants may potentiate its action. Usual precautions indicated in patients severely depressed, or with latent depression, or with suicidal tendencies. Observe usual precautions in impaired renal or hepatic function. Limit dosage to smallest effective amount in elderly and debilitated to preclude ataxia or oversedation.

Side Effects: Drowsiness, confusion, diplopia, hypotension, changes in libido, nausea, fatigue, depression, dysarthria, jaundice, skin rash, ataxia, constipation, headache, incontinence, changes in salivation, slurred speech, tremor, vertigo, urinary retention, blurred vision. Paradoxical reactions such as acute hyperexcited states, anxiety, hallucinations, increased muscle spasticity, insomnia, rage, sleep disturbances, stimulation have been reported; should these occur, discontinue drug. Isolated reports of neutropenia, jaundice; periodic blood counts and liver function tests advisable during long-term therapy.

Dosage: Individualize for maximum beneficial effect. *Adults:* Tension, anxiety and psychoneurotic states, 2 to 10 mg b.i.d. to q.i.d.; alcoholism, 10 mg t.i.d. or q.i.d. in first 24 hours, then 5 mg t.i.d. or q.i.d. as needed; adjunctively in skeletal muscle spasm, 2 to 10 mg t.i.d. or q.i.d.; adjunctively in convulsive disorders, 2 to 10 mg b.i.d. to q.i.d. *Geriatric or debilitated patients:* 2 to 2½ mg, 1 or 2 times daily initially, increasing as needed and tolerated. (See Precautions.) *Children:* 1 to 2½ mg t.i.d. or q.i.d. initially, increasing as needed and tolerated (not for use under 6 months).

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To help you manage excessive psychic tension

Maverick County child care clinic combats migrant health problems

Having among the worst nutritional problems in a ten-state survey and an infant mortality rate twice that of the national average are two facts of life in the dusty border area of Maverick County, Tex.
But members of the Texas Chapter of the American Academy of Pediatrics (AAP) hope to change those statistics. Last May, as the result of cooperation between the medical profession, county and state officials, and various social service agencies, the Maverick County Child Health Care Center opened to provide total care to thousands of children in the area.

Model clinic

Dr. William Conkling, FAAP, chairman of the project's Special Supervisory Committee, stated that the "model clinic" is part of a new approach in improving the health care of both poor migrant and settled population segments in the South and Southwest. It is one of three such demonstration rural clinics in the country sponsored by the AAP and the Office of Economic Opportunity.
Private physicians in the county number one per 4,000 people. There were no pediatricians serving the county prior to the establishment of the Center. Dr. Conkling emphasized that the Center is not in competition with local physicians, but exists for the indigent who otherwise would not have medical care available.
The initial funding of $150,000 from an AAP-OEO grant for the first year of the Center will be reduced by one-third the second year, and by two-thirds the next year. AAP support will be discontinued after 1975.
The Center hopes to become self-sustaining

The Center is located in a wing of the old Maverick County Hospital building provided rent-free by the hospital's board of directors.

Inadequate housing contributes to the health problems of the county.

through gifts, contracts with schools for services, and a modest fee scale for services rendered for patients near the poverty level.

During its first few months, 25 to 30 children were treated at the Center each day, but with the return of the migrant population in September and October that number has doubled.

Maverick County has a population of approximately 20,000. With the fluctuating population, there are between 5,000 and 8,000 children under 15 years of age in the area. The headquarters of the Center is in the county seat of Eagle Pass, a town of 17,000, whose medical care problems are multiplied in surrounding communities. Most of Maverick County's communities do not have an adequate sewage system or public water supply. There is not sufficient housing or rodent control. Twenty-five percent of the houses in Eagle Pass still make use of privies.

Under the direction of Dr. Raphael Jose Toledo, the bilingual staff of six try to identify and prevent the causes as well as treat the results of the poor health conditions in the area. Staff outreach workers go into the communities and talk to families in neighborhood center sessions. They also work in cooperation with schools and social agencies.

Variety of services

The variety of services performed by the Center include: screening and immunization programs; elective health assessments; referral and follow-up of patients to other health care facilities; school health services; identification of learning disorders in children; prenatal education and care of infants; and informational services for parents regarding the use of pediatric and family planning services, care of minor ailments, drugs, smoking, venereal disease and sex education.

The project is administered by the Bexar County Medical Foundation. Serving with Dr. Conkling on the Foundation's Special Supervisory Committee are Drs. George Thannisch, treasurer; Leopoldo C. de-Hoyos; Arturo Batres; Fernando Guerra; and William Brendel.

Family practice residencies – a new approach to old-time doctoring

A growing population and an increased public demand for medical services has generated a national and statewide call for more primary care physicians.

The Texas Medical Association's House of Delegates has strongly supported the education and training of more primary contact physicians in Texas to alleviate the need.

The American Medical Association likewise has supported development of training programs in this area.

Less than five years ago family practice came into being as a specialty nationally, a development of the American Academy of Family Physicians.

Consequently, the movement has resulted in a concerted national effort to create training centers for residents in this specialty.

Family physicians, for many years declining in numbers, are emerging as a new entity with the know-how and will to treat the individual within the total context of his environment.

According to an AMA national study of medical school programs, the number of residents in family practice in 1973-74 is six times greater than three years ago. In 1970-71 the number of residents in training for this specialty was 116; today the estimated number is 798. AAFP recent figures show 1771 residents in a total of 173 approved programs. This is an increase of 739 residents over 1972.

Texas figures show the number of family practice residents approaching 100 with expectations of surpassing that figure in 1974.

During the past several years, through the cooperation of the state's medical schools, medical societies and hospitals, new programs are developing to help meet this state's need for family physicians. Each of Texas' six operating medical schools are sponsoring programs and at least one county medical society is assisting with programs in community hospitals.

The first residency training program in Texas for family practitioners, the McLennan County Family Practice Residency Training Program, was organized and received accreditation three years ago in Waco. This residency is unusual in that it is sponsored and administered by the county medical society rather than by a hospital or medical school.

"We believe that the McLennan County Family Practice Residency Training Program provides an example of how the training of family physicians can be the stimulus for an effective health care delivery system providing comprehensive care economically to a metropolitan area," Dr. Christian N. Ramsey, acting director of medical education for the society, stated.

The residency program is three years in length. The program is designed to provide concentrated experience in outpatient and inpatient care, along with emphasis on continuity of care, community medicine, and the incorporation of preventive modalities into patient care and management.

During the first year of the program, the emphasis is on acute clinical inpatient medicine with rotation through the major clinical services of internal medicine, pediatrics, obstetrics and gynecology, surgery, and psychiatry. A one-month elective as an alternate service is also possible. During this time, the resident spends one afternoon per week in the Model Family Practice Unit where the resident provides care for families under the close supervision of an experienced family practitioner. During the second year, the resident again rotates through medical and surgical subspecialties. However, the emphasis becomes more outpatient oriented with the resident spending approximately 50% of his time in the Model Family Practice Unit. During the third year, the resident spends increasing time in the Model Family Practice Unit and the Mobile Unit, with 40% of the time being spent on subspecialty electives. A one or two month preceptorship in

a rural area is available in the third year for residents who plan to practice in a rural setting.

Because family practice is the only residency program operated by the medical society and the participating hospitals, the resident physician is assured full status as a physician in training for the specialty.

Essential part of community

"The entire medical community is dedicated to assisting the resident physicians in their education and training. Already the family practice program has become an essential part of this community's health delivery system," Dr. Ramsey said. Three of the six graduates of the program have gone into practice locally. Of the 2,500 families enrolled in the Clinic, the majority previously had no doctor and received only sporadic medical care.

The University of Texas Medical Branch at Galveston (UTMB) established the first residency program in a medical school in Texas. By April 1973, each of The University of Texas System's four medical schools had programs to train family physicians.

The residency programs are similar in that they include three years of intensive practical experience in internal medicine, general pediatrics, obstetrics and gynecology, surgery, psychiatry, and ear-nose-throat care.

The focal point of each residency program is a model clinic where the resident learns the concept of comprehensive medical care on an ongoing basis.

Dr. M. L. Ross, chairman of the Department of Family Medicine at UTMB, said that every effort is made to stress the importance of preventive medicine and to teach the residents how to make health appraisals of all family members.

At UTMB, residents are assigned approximately 20 to 30 families in their first year, 50 to 75 families in their second year; and

The Family Medicine Department wing at UTMB.

ENT Room at UTMB — A patient is being examined by one of the first two family medicine residents, Dr. David R. Simmons.

Family Therapy Room at UTMB — This room is also used for viewing through the mirror on one wall into the examining room adjoining it. The Family Therapy Room occupants cannot be seen from the examining room. Television equipment is also available, making these two rooms flexible from a teaching standpoint.

Dr. Marolyn Cowart, director of Baylor's Family Practice Center, and Dr. George Alexander, clinical faculty member of the center and president-elect of the Harris County Medical Society, discuss the role of the family physician with two family practice residents.

have over 100 families in their third year. Dr. Ross said that selection of families is limited to those in the Galveston County areas and an effort is made to give each resident a cross section of families in relation to disease, race and socioeconomic level. Approximately 50 to 60% of the families enrolled are in a private pay category.

New facilities underway

The University of Texas Southwestern Medical School in Dallas has an affiliation agreement with John Peter Smith Hospital in Fort Worth for residencies in family practice. The Family Practice Clinic, now under construction, will serve as a temporary facility until 1976 when a five-story, 66,500 square foot clinic building will be completed. All patients who are now seen in the outpatient clinic area of John Peter Smith Hospital will be seen in this clinic.

"We have a three year program designed to train the family practice physician to be able to meet the needs of his patients in every area on a day-to-day basis, to develop his knowledge, skills, sensitivity, and attitude so that he may deliver primary health care to all members of a family," Dr. David Pillow, director of the Family Practice Residency Program, said.

Last year 24,000 patient visits occurred in the two Family Health Center projects of The University of Texas Health Science Center at San Antonio. Patients are drawn from the large number of medically indigent residents of the county. Dr. Herschel L. Douglas, professor and chairman of the Department of Family Practice at the San Antonio medical school said the initial goals of the program were to do research into health care delivery using computer technology, team delivery of health care and to provide a model in which to teach students and house staff comprehensive primary health care delivery. "No attempt is made to separate purely medical from emotional, environmental, or social problems and our teams include social workers, family health workers making home visits, other paramedical personnel, medical students, interns, residents and faculty," Dr. Douglas stated.

The Family Practice Program at the medical school at the UT Health Science Center at Houston is growing from the base of experience with the family practice residency organized at the Memorial Hospital System Central by Dr. Jack A. Haley. A residency training program offering four new positions a year for three years of training is now fully approved. Family practice is further emphasized through the undergraduate curriculum. First year students spend an afternoon a week as preceptors in the offices of Houston area physicians whose practices emphasize primary care. In the second year, didactic material concerning the organization of and emphasis on behavioral aspects of family practice is presented. A rotation through the family practice clinic is required of all third year students and an ambitious three month

elective preceptorship is offered to fourth year students. This emphasis on primary care is being reflected in the choice of fields by the 22 students in the school's initial class which graduated Dec 2. Six graduates are going into rotating internships and are headed for family practice and seven plan to enter pediatrics, OB-GYN, and medicine, fields which emphasize primary health care.

The Family Practice Program at Baylor College of Medicine began operation July 1, 1973, with approval for nine residents. Dr. Marolyn Cowart is director of the Baylor program. Its home base is the Family Practice Center at St. Luke's Episcopal Hospital in the Texas Medical Center. The curriculum is the same basic curriculum as the other family practice residencies with 19 possible elective experiences in Baylor's seven affiliated teaching hospitals, and instruction in medical economics and practice management. Opportunities are available through the joint program with the College of Business at the University of Houston in the health management sciences. The program stresses the involvement of the physician with the entire family in providing complete health care.

A unique feature is the abundance of total families who represent the middle-income culture in addition to a balanced representation of minority groups and community health profiles.

Practicing family physicians who serve as clinical faculty at the Baylor Center are encouraging residents to consider practicing in suburban as well as rural areas of Texas. At the same time, the cooperation of these practicing physicians with the faculty provides an opportunity for professional interchange between family practitioners, other medical specialists, residents, and medical students.

A great need in West Texas

The need for physicians in the vast West Texas outreaches is an especially poignant fact for the Department of Family Practice at the Texas Tech University School of Medicine which is establishing model family practice clinics throughout its surrounding areas. These teaching clinics serve as clinical environments for training medical students and serve as the key element in the family practice resident physician training program. The residency program currently has six residents and the School hopes to have 12 by next year.

Dr. Sydney Garrett, associate chairman of the Department of Family Practice, said that the program, being so new, is very flexible. One of the many optional areas offered by the residency program is a rotation in sports medicine, an area in which training for the future family practitioners is very important. The School also offers a geriatrics rotation as part of its basic program. Residents and faculty make regular rounds to various nursing homes in the area. Geriatrics is available to sophomore medical students as an elective field.

Another concept the School hopes to adopt

by next year, is the introduction of a first year resident to a small town in which he will work as a limited time preceptor under the supervision of the town's physician. It will, in effect, become "his town" during his residency and will offer an opportunity for practice upon his completion.

The Family Practice Residency at Memorial Medical Center in Corpus Christi was also recently approved for accreditation for 12 residents. The residents are divided into teams, each of which has a consultation room and has access to examining and treatment rooms in a facility which has been developed for family practice use. The facility has its own waiting room, parking lot, receptionist, laboratory, and does its own billing and collecting.

Dr. E. L. Holt, director of the residency program at Memorial said, "In order to compete successfully with the other residencies, family practice must be viable as an economic endeavor and as a facet of the medical profession which has equal stature with the residents of other specialties. I think as time goes on, the area of family practice will become more clearly identified and the expertise of the family physician will be more highly developed and even more sought after than it is today."

Coming of age

The directors of the various residencies across the state agree that family practice is not only here to stay, but is coming into an age of its own. Dr. Holt continued, "I think family medicine will be a continuing entity and I think the need for it will not only continue, but will in fact, increase as society and medicine become more and more depersonalized."

Dr. Cowart of Baylor, said, "We feel that patients who have had experience with a family physician and who are knowledgeable about the scope of a good family physician will continue to request services from physicians in the specialty."

The Texas Academy of Family Physicians is convinced family physicians can and do take care of over 80% of their patients' illnesses before referring them to another specialty.

The need for family physicians is well documented. A study conducted last year by TMA showed the immediate need for many hundreds more physicians specializing in family medicine.

More physicians are being attracted to family medicine now that the field has become a recognized training program and board certification is available. However, there are not enough programs available for these doctors to obtain the training they need and want, although the number of residencies is steadily increasing.

Commenting on present conditions and the future of family physicians, Dr. Ramsey of McLennan County Society said, "Family Practice is currently receiving special emphasis and attention, part of which can be equated with the economic law of supply and demand. Increasingly, the primary care physician is recognized as a means of providing effective health care economically in metropolitan and rural areas. This does not imply the demise of the specialists. Rather, this trend indicates a better ratio in the future of family physicians to specialists and to a more effective utilization of the specialist. In addition, family physicians provide an avenue to the practice of preventive medicine by treating entire families on a continuing basis. The family physician is a means of simplifying an increasingly complex medical system in which only a few have a long-term association with a single physician."

MEDICINE AND THE LAW

FEDERAL COURT UPHOLDS CORPORATE PRACTICE OF MEDICINE PROHIBITION IN TEXAS

Non-physicians who desired to incorporate to deliver medical care by means of salaried physicians were denied a charter under Texas law. A suit alleging that Texas laws were unconstitutional was dismissed, thereby upholding constitutionality of Texas law and affirming the state's longstanding prohibition of the corporate practice of medicine.

FACTS: Plaintiffs were Genaro Garcia and others, individually, and three organizations, one known as the San Antonio Community Health Maintenance Association (SACHMA). This class action was filed to allow incorporation of SACHMA and similar organizations who wish to hire licensed physicians on a salary basis. The defendants were the Texas State Board of Medical Examiners and the Secretary of the State of Texas. The plaintiffs had made an application to the Secretary of State for a corporate charter for SACHMA, whose purpose clause stated:

> To protect the public health, aid the development and proclamation of the public health, to administer and supervise plans which involve health and medical services, to foster, encourage and coordinate health services among the membership, and to contract for the employment of licensed physicians on a salary basis to work for said corporation as employees.

The Secretary of State refused to grant a corporate charter because none of the proposed incorporators were licensed to practice medicine in Texas as required by statute. The plaintiffs asserted that the statutes denied them equal protection under the 14th Amendment and the right to assemble under the 1st Amendment to the US Constitution, as the statutes prevented the plaintiffs from associating in corporate form for the purpose of treating, or offering to treat, the sick, injured, or infirmed human beings. The plaintiffs further asserted that the Secretary of State's action denied their right to obtain federal funds. The plaintiffs sought to enjoin the enforcement of Article 4505 (12), 4505 (15), and 4506, V.A.T.S. insofar as they deny plaintiffs the right of association, due process, and equal protection of the law; and a mandatory injunction against the Secretary of the State of Texas to issue a corporate charter to SACHMA. *Garcia, et al vs. The Texas State Board of Medical Examiners, the Secretary of the State of Texas,* 358 F. Supp., 1016 (US Dist. Ct., Western Dist. of Tex., San Antonio Div., May 18, 1973).

HOLDING: The court dismissed the plaintiffs' case, holding that the Medical Practice Act of Texas does not deny due process or equal protection under the 14th Amendment of the US Constitution. Furthermore, it does not violate the freedom to assemble or associate. In order for a federal court to disturb the state's right to regulate the practice of medicine, it must be clearly demonstrated that the state is engaged in an unreasonable excess of its reserve police power, of which no evidence was found. The court followed the long-standing precedent of prohibiting the practice of medicine by a corporation.

REASONING: The court stated that Art. 4505 (12), V.A.T.S., prohibits a physician from "permitting or allowing another to use his license or certificate to practice medicine in this state for the purpose of treating or offering to treat the sick, injured or afflicted human beings," and such conduct is made a grounds for suspension and revocation or cancellation of his license to practice medicine by the provisions of Art. 4506, V.A.T.S. The court stated that when a corporation employs a licensed physician to treat patients and itself receives the fee, the corporation is unlawfully engaged in the practice of medicine and the licensed physician so employed is subject to having his license to practice medicine in Texas cancelled, revoked or suspended by the Board of Medical Examiners. The court cited several cases supporting this reasoning.

The court stated that the police power of the state includes the power to enact comprehensive, detailed, and rigid regulations

for the practice of medicine, surgery, and dentistry. There is no right to practice medicine which is not subordinate to the police power. The court stated that the needs of the public for highly qualified, licensed healers and the right of the state under its police power to regulate such practitioners must be weighed against the alleged abridgment of plaintiffs' constitutional rights.

The court stated that the right of the state to regulate the practice of medicine, to provide for the general health and welfare of its citizens, is of such importance as to approach the status of a duty. The Judge said this is a highly specialized field of experts dealing with the lives of citizens and the state must, therefore, insure as best it can the competency of these experts. The court stated that the legislation was initially enacted to protect the populace from the early medical quacks and charlatans.

The court cited many cases with reference to the doctrine of the prohibition against the corporate practice of medicine. In one such case, *Painless Parker vs. Dental Examiners*, 216 California 285, 14 Pacific 2d, 67 (1932), the court stated that if the appellant's reasoning was sound, the employer of a licensed dentist, although guilty of violation of ethical standards, would stand immune from regulatory supervision. In turn, the dentist would also be immune from discipline on the grounds that he was a mere employee and not responsible for his employer's misconduct, whether the employer be a corporation or a natural person.

The court said Art. 4509 (a), V.A.T.S., which authorizes physicians licensed by the TSBME to form non-profit corporations, organized for the purpose of delivering health care to the public, contains the stipulation that the directors or trustees of such organizations be persons duly licensed by the Board. The reasoning follows similarly to insure the people of obtaining competent and quality medical treatment.

The court stated that the Texas laws were clear. They "preserve the vitally important doctor-patient relationship and prevent the indirect practice of medicine" by a layman corporation. The protection of plaintiffs' constitutional freedom to assemble or associate is not curtailed by any law that prevents the association for unlawful purposes.

The Judge further stated that he did not deem it proper to change state policy regarding the practice of medicine by court action.

The plaintiffs implied that "the Texas Medical Practice Act promulgates an elitest, unreasonable restrictive and self-perpetuating monopoly by the medical profession to the detriment of the economically disadvantaged." The court held that although there exists a grave shortage of doctors, the panacea is not to be found in the formation of non-profit layman corporations. The court said "not only is such a corporation fraught with practical and ethical considerations, but may well represent a backward step in the legislative protections it has taken so long to achieve." Superior in the court's reasoning was the doctor's primary duty to the patient. The court contended that while more and less expensive medical care is needed today, where the health of the public is at stake, Machiavellian rationale should not apply.

CONCLUSION: This decision upholds, with sound reasoning, the previous body of Texas law which states that whenever a corporation employs a licensed physician to treat patients and itself receives the fee, the corporation is unlawfully engaged in the practice of medicine and the licensed physician so employed is violating Texas law and is subject to having his license to practice medicine in this state cancelled, revoked or suspended.

It is of note that Judge Wood did not attempt to use the federal courts to change Texas law. The rationale and approach of the court affords some comfort to those who have long considered the holdings of this case as good public policy and sound medical practice.

Because of its importance, this case will be followed closely and when a decision on appeal is reached it will be reported herein.

Office of TMA General Counsel
Ace Pickens

The changing face of Texas Medicine

In 1923 Edward W. Bok, former editor of the *Ladies Home Journal,* offered $100,000 for the "best practicable plan by which the United States may cooperate with other nations to achieve and preserve the peace of the world."

The contest closed Nov 15, 1923, with 22,165 plans on file. The January issue of the *Texas State Journal of Medicine,* now *Texas Medicine,* published a synopsis of the plan approved by the jury of the award. The journal also printed a ballot so that physicians could indicate their approval or disapproval of the plan in substance.

The plan, briefly, provided that the United States adhere to the Permanent Court of International Justice and cooperate with the League of Nations, without full member ship at that time. It proposed participation in the work of the League's Assembly and Council, however, with several conditions and reservations. These included the safeguarding of the Monroe Doctrine and the retention of the United States' "traditional attitude concerning American independence of the Old World." In addition the plan did not provide for any type of military or economic force. It proposed that "the only kind of compulsion which nations can freely engage to apply to each other in the name of peace is that which arises from conference, from moral judgment, from full publicity, and from the power of public opinion."

It also provided that the United States accept no responsibilities under the Treaty of Versailles unless in any particular case Congress authorized such action. It proposed that the League of Nations be open to any self-governing State that wished to join and received the favorable vote of two-thirds of the Assembly. The final condition of the plan was that the League begin collaboration for the revision and development of international law employing for this purpose the aid of a commission of jurists. This Commission would be directed to formulate anew existing rules of the law of nations, to reconcile divergent opinions and in general to define the social rights and duties of States.

The editor commented, "The purpose of Mr. Bok in this whole movement is 'to reflect in a practicable plan the dominating national sentiment as expressed by the large cross-section of the American public taking part in the award.' It is extremely doubtful whether this purpose will be attained. Studying the full text of the plan, we are convinced that those who are in a general way favorable to the League of Nations will vote 'yes' and those opposed will vote 'no.' "

The editor questioned whether Mr. Bok by this referendum could force the Senate of the United States to recede from its opposition to the League of Nations, and permit participation on some practical basis.

Expressing the *Journal's* opinion, the editor continued, "Perhaps we have been anticipating too much, but the truth is, we are somewhat disappointed. Believing in the League of Nations as a helpful if not essential agency in holding the governments of the world in check, we will probably vote 'yes,' but it seems to us that we could offer some better suggestions for less money . . . It won't be much of an agreement if we insist upon the Monroe Doctrine. Likewise it won't be much of an agreement if we do not assume our share of the burden of enforcing it . . . As a matter of practical fact, if a majority of the nations of the world would agree not to furnish supplies of any sort to a minority which insisted upon fighting, there would not be much fighting. At least, there would not be so many wars. We have a notion, also, that the nation which has nothing to risk, and nothing to offer except argument, has very little business in a league, or group of whatever name or character, designed to make somebody behave—at least, if it is to have anything like equal representation."

Personals

New appointees to the Texas State Board of Medical Examiners are DR. JOE T. GILBERT Austin, DR. CARLOS D. GODINEZ, McAllen, and DR. ROBERT B. HARRIS, Houston. Dr. Gilbert replaces the late Dr. Herman A. Barnett, Dr. Godinez was appointed to replace Dr. Clifford Burross, and Dr. Harris replaces Dr. Merle W. Delmer.

DR. HOWARD R. DUDGEON, JR., Waco, was elected president of the Texas Surgical Society at its Fall meeting in Corpus Christi. Dr. Dudgeon is a former president of the Texas Medical Association and was vice president of the Texas Surgical Society in 1968.

DR. CHARLES F. GREGORY, chairman of orphopedic surgery at The University of Texas Southwestern Medical School at Dallas, has been named a representative of the American Board of Medical Specialties on the Liaison Committee on Graduate Medical Education.

Several communities have recently honored local long-time physicians. They include DR. SCOTT ALLEN, Burnet, who was entered in Burnet's Hall of Fame. DR. WYNNE H. PEARCE, was honored by Orange with a proclamation of "Dr. Wynne Pearce Day." "Dr. Peters Day" was held in Devine in honor of DR. LEO E. PETERS.

The City of Galveston honored DR. THOMAS KIRKSEY and DR. JOHN DERRICK with the proclamation of "Stroke Club Week." The Galveston Stroke Club was formed by the two physicians 5 years ago to help stroke victims overcome physical and psychological problems.

DR. HAROLD C. URSCHEL, JR., associate clinical professor of thoracic and cardiovascular surgery at The University of Texas Southwestern Medical School at Dallas was elected chairman of the Board of Regents, American College of Chest Physicians.

New medical director of Blue Cross-Blue Shield is DR. ERNEST A. MAXWELL of Dallas. Dr. Maxwell replaces the late Dr. Doyle W. Ferguson.

DR. WILLIAM POWELL, Gainesville, assumed the presidency of the Texas Academy of Family Physicians at the group's annual meeting in San Antonio in November. Elected to serve with him were DR. JESSE CONE, Odessa, president-elect; DR. S. PERRY POST, San Antonio, vice president; and DR. JOHN HUNDLEY, Fort Stockton, treasurer.

DR. TRUMAN G. BLOCKER, JR., was named an honorary lifetime vice president of The University of Texas Dad's Association during the annual Dad's Day Celebration in November. Among 15 vice presidents elected were DR. EARL W. CLAWATER, JR., Tyler, and DR. DENTON A. COOLEY, Houston.

DR. ROBERT D. MORETON, vice president for professional and public affairs at The University of Texas System Cancer Center at Houston, was chosen to receive the Gold Medal of the Radiological Society North America. Dr. Moreton is also the vice president for professional and developmental affairs for The University of Texas Health Science Center at Houston.

Two gold-headed cane awards were recently presented to Texas physicians by their medical societies. DR. RICHARD JOHNS received the award from Taylor-Jones County Medical Society; and DR. HAROLD BEASLEY'S award was presented to him by Tarrant County Medical Society.

President-elect of the American College of Chest Physicians is DR. ARTHUR C. BEALL, JR., professor of surgery, Baylor College of Medicine at Houston. He will assume the office of president in November, 1974.

DR. GEORGE R. HERRMANN ended 44 years at The University of Texas Medical Branch as a teacher and cardiovascular researcher Nov. 1. Dr. Herrmann plans to practice medicine with his son in Del Rio.

"If you can't decide what's wrong, would you like a descriptive folder of some popular disorder?"

Medicine in literature

IN THE TMA LIBRARY

Taylor ES: *Essentials of Gynecology*, ed 4, Philadelphia, Lea & Febiger, 1969.

Ulett GA: *A Synopsis of Contemporary Psychiatry*, ed. 5, CV Mosby Co., 1972.

Wilkins Lawson and others: *The Diagnosis and Treatment of Endocrine Disorders in Childhood and Adolescence*, ed 3, Springfield, Ill, C C Thomas, 1966.

Wilkinson M, ed: *Cervical Spondylosis; its early diagnosis and treatment*. Philadelphia, WB Saunders, 1971.

Wilson RA, Craver BN, eds: *Clinical Uses of the Female Sex Hormones and Early Diagnosis and Treatment of Mammary Cancer*. Amsterdam, Excerpta Medica, 1972.

Wittenborn JR et al: *Drugs and Youth, Proceedings of the Rutgers Symposium On Drug Abuse*, Springfield, Ill, CC Thomas, 1969.

Wolberg LR: *Hypnosis, Is It for You?*, New York, Harcourt, Brace, Jovanovich, Inc., 1972.

Wylie EJ, Ehrenfeld WK: *Extracranial Occlusive Cerebrovascular Disease, Diagnosis and Management*, Philadelphia, WB Saunders, 1970.

Yates FA: *The Art of Memory*, Chicago, University of Chicago Press, 1972.

Young JF: *Cybernetics*, in McKellar P, ed: *Behavioural Sciences Series*. New York, American Elsevier, 1969.

Zuckerman AJ: *Hepatitis-Associated Antigen and Viruses*. New York, American Elsevier, 1972.

RECENTLY DECEASED MEMBERS OF THE TEXAS MEDICAL ASSOCIATION

C. T. BRIERTY
San Antonio, 1929-1973

J. E. RABEL
San Antonio, 1901-1973

R. R. RAMSEY
Andrews, 1919-1973

G. S. RUSHING
Longview, 1899-1973

W. G. STEPHENS
Borger, 1898-1973

W. T. YOUENS
Columbus, 1920-1973

IN MEMORIAM

The Memorial Library of the Texas Medical Association stands as a permanent memorial to physicians who have served their patients, their profession, and the people of Texas so faithfully over the years.

The Library ranks as one of the finest in the nation. It is providing more than 10,000 reference requests, 3,500 tapes and cassettes, and 2,500 films each year to physicians, students, and to those seeking information related to medicine and health care. The resources of the Library include 60,000 volumes, 400 tapes, and 300 scientific and lay films; more than 1,300 professional journals are received monthly. Services are provided without charge.

Contributions to the Texas Medical Memorial Library Fund are invested in a permanent fund and are managed by the Board of Trustees of the Texas Medical Association. Dividends are used to purchase new books and to operate the Library.

TEXAS MEDICAL MEMORIAL LIBRARY FUND

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Recent deaths

Dr. G. S. Rushing
Longview family physician and surgeon since 1934, Dr. Garland Stanley Rushing died June 19, 1973, at the age of 74.
Cause of death was acute myocardial infarction due to arteriosclerotic vascular disease.
Dr. Rushing received a BS degree from the University of Arkansas, Fayetteville, and an MD degree from Rush Medical College, Chicago. He interned at Garfield Park Community Hospital, Chicago, and Denver General Hospital, Denver. Following a one-year practice in El Dorado, Ark., Dr. Rushing moved to Longview, where he practiced until his retirement in 1971.
He served as president of Gregg County Medical Society, and was a member of Texas Medical Association and American Medical Association. He was also a Fellow of American College of Surgeons.
Dr. Rushing is survived by two daughters, Mrs. Diana Grogan, Longview, and Miss Daphne Rushing, Austin; one sister, Mrs. Beulah Rushing, Taylor; one nephew, Dr. W. W. Taylor, Dallas; and five nieces.

Dr. C. T. Brierty
San Antonio pathologist, Dr. Charles Thomas Brierty died Sept. 26, 1973.
Drowning was the cause of death of the 44-year-old physician.
A native of Iowa, Dr. Brierty received an MD degree from Creighton University School of Medicine, Omaha, Neb. He completed an internship and residency at St. Joseph Hospital, Omaha, and a residency at Colorado General Hospital, Denver. Following service with the US Air Force from 1959 to 1963, Dr. Brierty established his practice in San Antonio.
He was a member of American Society of Clinical Pathologists, College of American Pathologists, Bexar County Medical Society, Texas Medical Association, and American Medical Association. He was also certified by the American Board of Pathology.
Dr. Brierty is survived by his wife, Mary Ann Feder Brierty; two sons, Charles Michael Brierty, and Thomas Timothy Brierty; three daughters, Mrs. Catherine Embrey, Margaret Anne Brierty, and Bridget M. Brierty, all of San Antonio; mother, Mrs. Phyllis Brierty, Boone, Iowa; one brother; and one sister.

Dr. Rushing

Dr. Rabel

Dr. J. E. Rabel
Dr. John Edgar Rabel, San Antonio family physician, died Sept. 20, 1973. Cerebral vascular accident with rupture of the vascular artery caused the death of the 68-year-old physician.
A graduate of The University of Texas Medical Branch at Galveston, Dr. Rabel completed an internship at Robert B. Green Memorial Hospital, San Antonio, before establishing a practice in Cibolo, Tex., where he remained for two years. He then moved to San Antonio where he continued the practice of medicine until his death.
Dr. Rabel was a member of American Society of Abdominal Surgeons, American Academy of Family Physicians, Bexar County Medical Society, Texas Medical Association, and American Medical Association.
He is survived by his wife, Ida Raab Rabel; two daughters, Mrs. Frank Spellman and Mrs. S. J. Hurley, all of San Antonio; two brothers; and four sisters.

Dr. Stephens

Dr. Youens

Dr. W. G. Stephens

Dr. Walton Glen Stephens, Borger, died Oct. 7, 1973, in High Plains Baptist Hospital, Amarillo. The 75-year-old surgeon had practiced in Borger since 1930.

Dr. Stephens received a BA degree from Baylor University, Waco, and an MD degree from Baylor College of Medicine, Houston. He completed an internship and residency at Parkland Hospital, Dallas, prior to moving to Borger, where he began his medical practice.

Elected to honorary membership in Texas Medical Association in 1972, Dr. Stephens also held memberships in Top O'Texas County Medical Society and American Medical Association.

He is survived by his wife, Viola Bunton Stephens, Borger; one daughter, Mrs. Susan Clark, Irving; one son, Donald Glen Stephens, New Orleans; two brothers; five sisters; and three grandchildren.

Dr. W. T. Youens

Dr. William Thomas Youens, Columbus ophthalmologist, died Aug. 13, 1973, in Hermann Hospital, Houston, at the age of 52.

Born in Columbus, Tex., he received a BA degree from The University of Texas at Austin, and was graduated from The University of Texas Medical Branch at Galveston with an MD degree in 1943. He completed an internship and residency at Hermann Hospital, Houston, before entering the US Army. In 1946, he established his practice in Weimar, where he and his brother, Dr. Willis G. Youens, Jr., founded the Youens Memorial Hospital. He completed graduate studies in ophthalmology at Harvard Medical School, and in 1953, moved to Columbus, where he founded the Youens Eye Clinic.

Dr. Youens was a member of Texas Ophthalmological Society, Houston Ophthalmological Society, Colorado-Fayette County Medical Society, Texas Medical Association, and American Medical Association. He also served as Colorado County health officer from 1955 until his death.

He is survived by his wife, Myrl Rau Youens, two sons, W. T. Youens, Jr., and Karl D. Youens, all of Columbus; two daughters, Mrs. Carolyn Hastedt, Columbus, and Mrs. Janet White, Uvalde; stepmother, Mrs. Willis G. Youens, Sr., Houston; one sister; and two brothers.

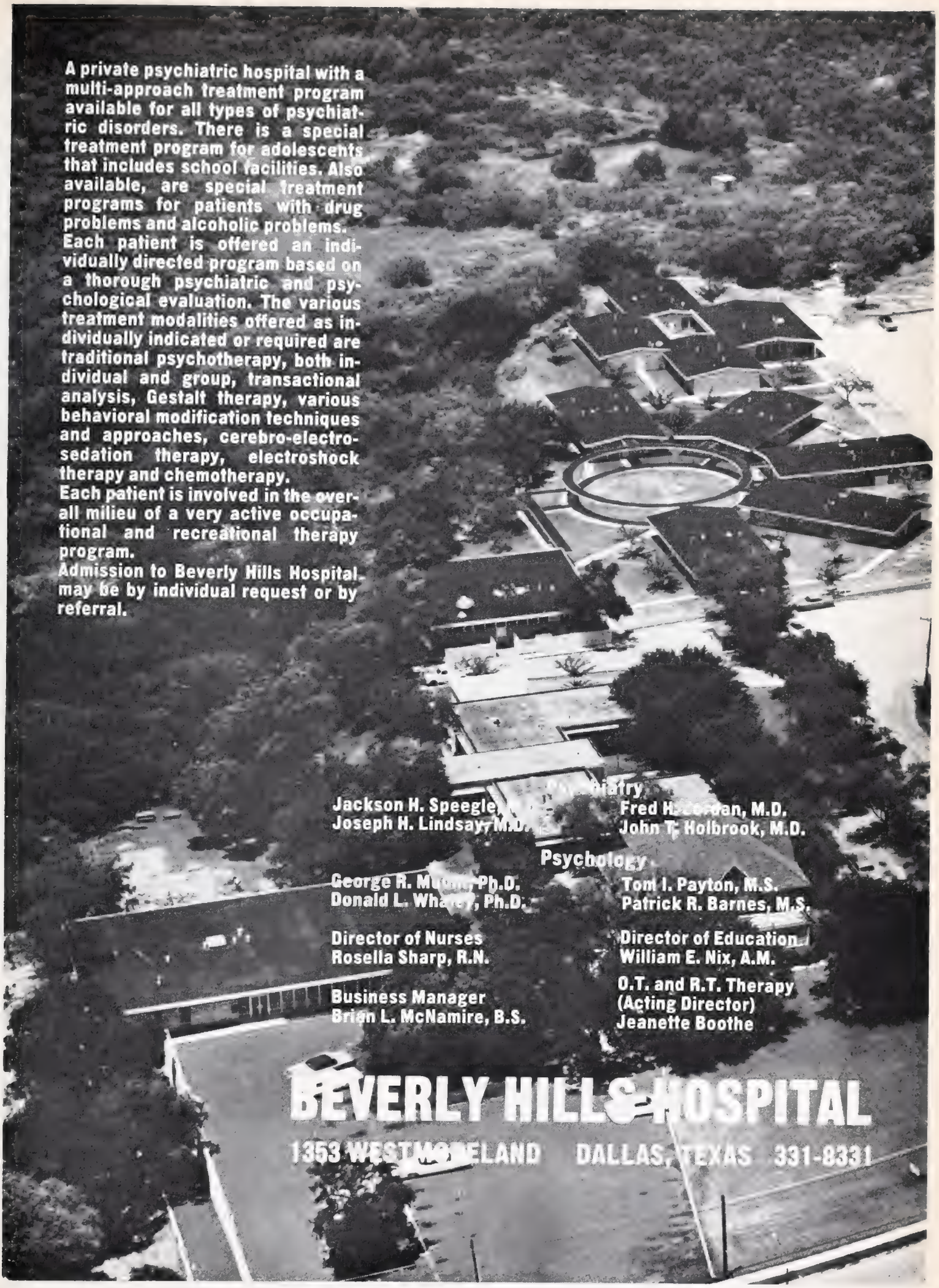
Dr. R. R. Ramsey

Dr. Richard R. Ramsey died Sept. 30, 1973, while visiting at Lakeway near Austin. He had been a family physician in Andrews since 1948.

Born in 1919, Dr. Ramsey attended Texas Military Academy and The University of Texas at Austin and earned an MD degree from The University of Texas Southwestern Medical School at Dallas. He completed an internship at Robert B. Green Memorial Hospital, San Antonio. Following a short medical practice in Odessa, he moved to Andrews where he continued his practice until his death.

Dr. Ramsey was a member of Andrews-Ector County Medical Society, Texas Medical Association, and American Medical Association.

He is survived by his wife, Loneta Doggett Ramsey, Andrews; two sons, Gordon Ramsey, Fort Worth, and Mathew Ramsey, Austin; one sister and two brothers.


A private psychiatric hospital with a multi-approach treatment program available for all types of psychiatric disorders. There is a special treatment program for adolescents that includes school facilities. Also available, are special treatment programs for patients with drug problems and alcoholic problems.
Each patient is offered an individually directed program based on a thorough psychiatric and psychological evaluation. The various treatment modalities offered as individually indicated or required are traditional psychotherapy, both individual and group, transactional analysis, Gestalt therapy, various behavioral modification techniques and approaches, cerebro-electrosedation therapy, electroshock therapy and chemotherapy.
Each patient is involved in the overall milieu of a very active occupational and recreational therapy program.
Admission to Beverly Hills Hospital may be by individual request or by referral.
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Fred H. Sheridan, M.D.
John T. Holbrook, M.D.
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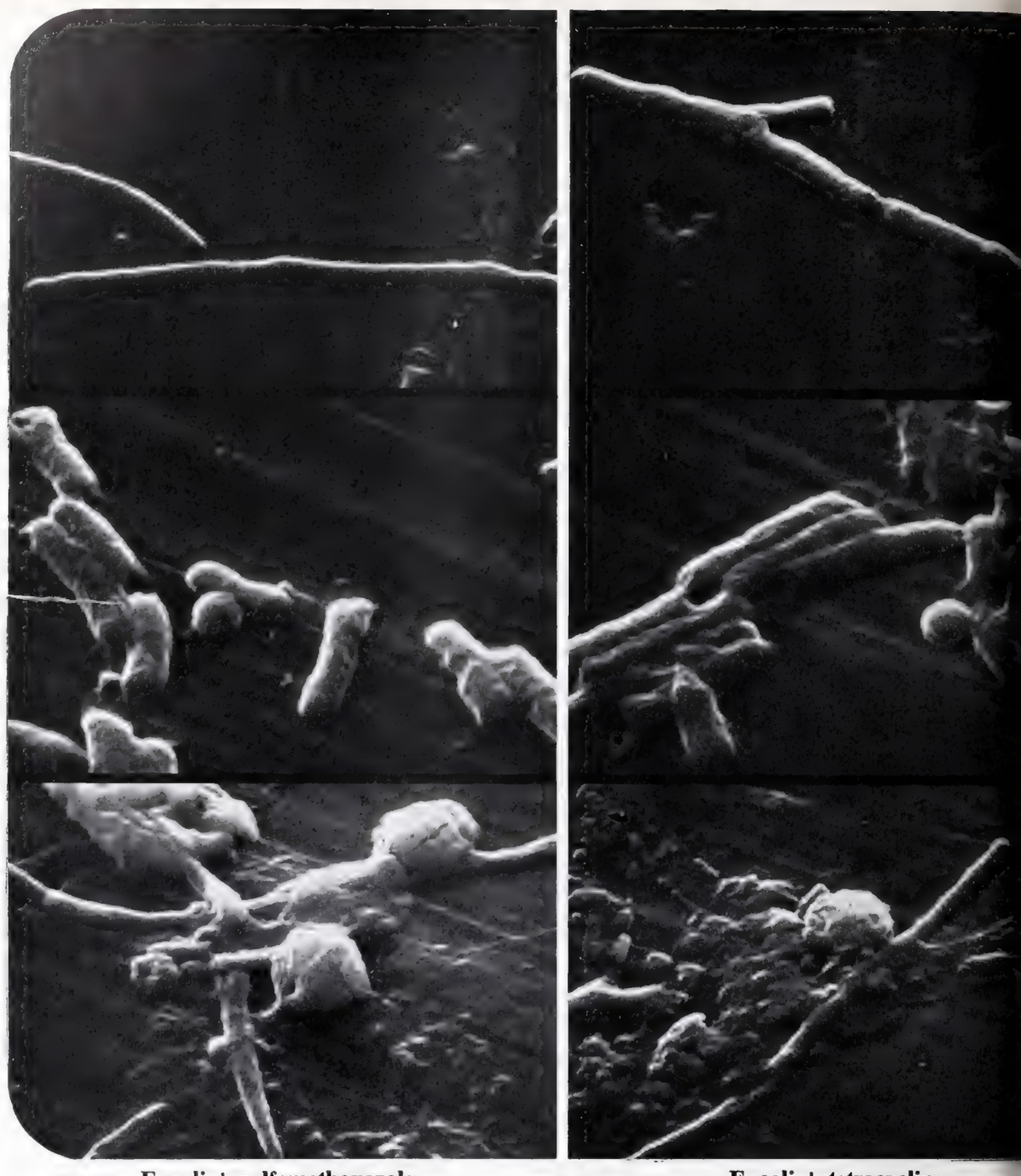
George R. Murray, Ph.D.
Donald L. Wharey, Ph.D.
Tom I. Payton, M.S.
Patrick R. Barnes, M.S.
Director of Nurses
Rosella Sharp, R.N.
Director of Education
William E. Nix, A.M.
Business Manager
Brian L. McNamire, B.S.
O.T. and R.T. Therapy
(Acting Director)
Jeanette Boothe
BEVERLY HILLS HOSPITAL
1353 WESTMORELAND DALLAS, TEXAS 331-8331

Gantanol® (sulfamethoxazole) and th

0.1 M.I.C. for three hours
Similar elongations occur regardless of antibacterial used.

1.0 M.I.C. for three hours
Similar midcell defects seen with increased antibacterial concentrations.

10 M.I.C. for three hours
Similar spheroplast-like forms appear with high concentrations of the antibacterials.



E. coli + sulfamethoxazole

E. coli + tetracycline

The Scanning Electron Microscope (SEM) reveals the effect

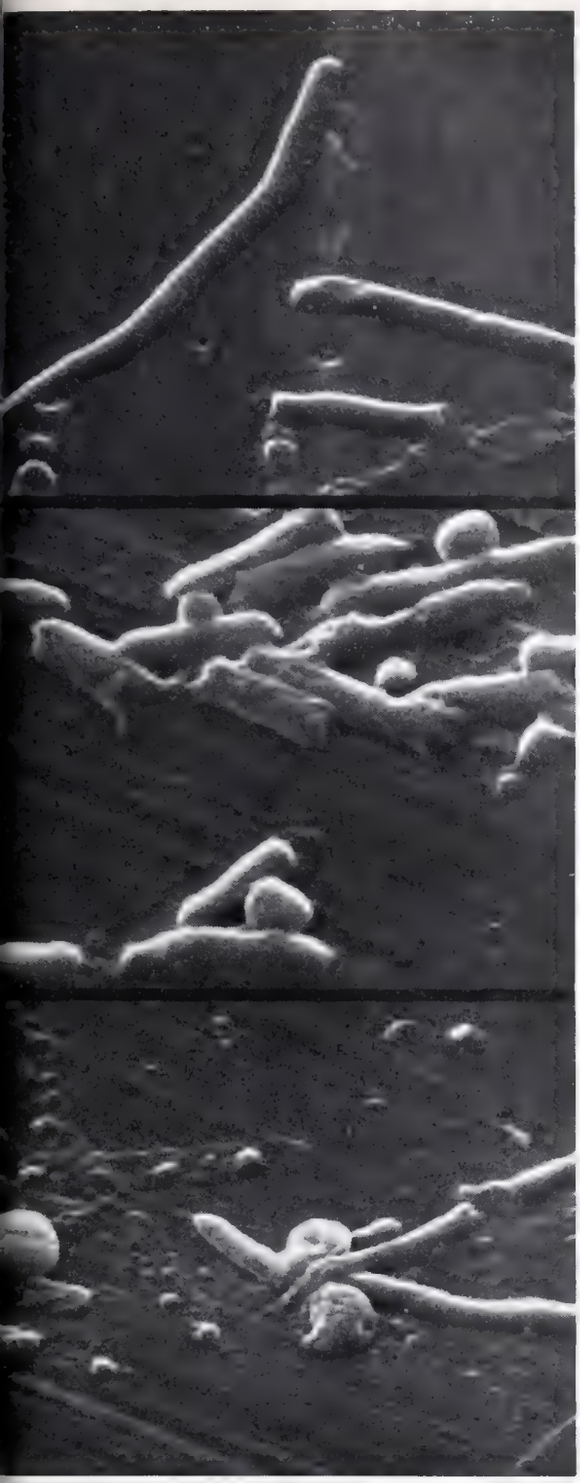
The *in vitro* experiment. These SEM photomicrographs were taken as part of a study exploring the effects of various antibacterials with different modes of action on the surface morphology of bacteria. The scanning electron microscope was used because of its ability to show three-dimensional views of organisms, enabling better definition and appreciation of surface morphology.

For this portion of the experiment, *E. coli* were exposed to the following agents: sulfamethoxazole, a chemical drug which acts by interference with para-aminobenzoic acid utilization; tetracycline, which interferes with intracellular protein synthesis; and cephalothin and ampicillin, which are cell-wall-active drugs.

Strains of *E. coli,* each susceptible to the respective antibacterials, were exposed for 15, 30, 60, 120 and 180 minutes and 18 hours to several concentrations of each agent.

Following the 180-minute or three-hour exposures to the antibacterials at 0.1 M.I.C., 1.0 M.I.C. and 10 M.I.C., photoscans of the *E. coli* were taken. As shown above, regardless of the antibacterial agent used or its mode of action, the changes in surface morphology were remarkably similar... elongation at low drug concentrations, midcell defects at higher

hree-Dimensional World of SEM



E. coli + cephalothin

E. coli + ampicillin

f certain antibacterials on bacterial surface morphology

ncentrations and ultimate progression to sphero-ast-like forms.[1]

The interpretation. "At present, the significance of ese observations in clinical infection must be con-dered with caution, but it is hoped that these data ill stimulate a reevaluation of present concepts of e nature and role of morphological variants of bac-ria exposed to a variety of antibacterial factors."[2]

It should be noted that this information represents nly *in vitro* research. No clinical significance can e drawn from this study concerning the effective-ness of any of the agents discussed, as it is not possible to extrapolate *in vitro* data to humans. This information is presented to demonstrate the continuing research activities in the area of antibacterials, particularly modes of action and surface morphology.

[1]Data on file, Hoffmann-La Roche Inc., Nutley, N.J.

[2]*Antimicrob. Agents Chemother., 1*:164, 1972.

See next two pages for product information.

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Roche Laboratories
Division of Hoffmann-La Roche Inc.
Nutley, N.J. 07110

Observations from

E. coli—Fluorescent stain

Klebsiella sp.—Stain to define capsular envelope

■ Effective control of primary susceptible bacterial offenders

Gantanol® (sulfamethoxazole) is effective against susceptible strains of *E. coli,* the most common cause of urinary tract infections. It is also highly effective against other susceptible gram-negative and gram-positive organisms, usually *Klebsiella-Aerobacter, Staph. aureus* and *Proteus mirabilis.*

■ Prompt antibacterial blood and urine levels—in from 2 to 3 hours

Antibacterial levels of Gantanol usually appear in blood and urine in from 2 to 3 hours after the initial 2-Gm adult dose. This rapid initiation of effective antibacterial activity enables prompt treatment of certain nonobstructed urinary tract infections and may also help avert possible sequelae.

■ Around-the-clock coverage for 14 days

Mounting evidence in current medical literature suggests a minimum of 14 days' continuous therapy for certain urinary tract infections.* Following the initial 2-Gm adult dosage of Gantanol each 1-Gm dose provides up to 12 hours of antibacterial activity during the treatment period. When urinary tract infection is more severe, *t.i.d.* (q. 8 h.) dosage schedule may be required. Both regimens provide around-the-clock therapy, important because normal urinary retention during sleep tends to favor bacterial proliferation. It is also convenient for patients not to have to take middle-of-the-night medication.

■ Also effective in certain nonobstructed chronic and recurrent urinary tract infection

Nonobstructed urinary tract infections, such as cystitis or pyelonephritis—chronic and/or recurrent—develop more commonly in the elderly and debilitated, and response to Gantanol is often highly satisfactory.

Before prescribing, please consult complete product information, a summary of which follows:

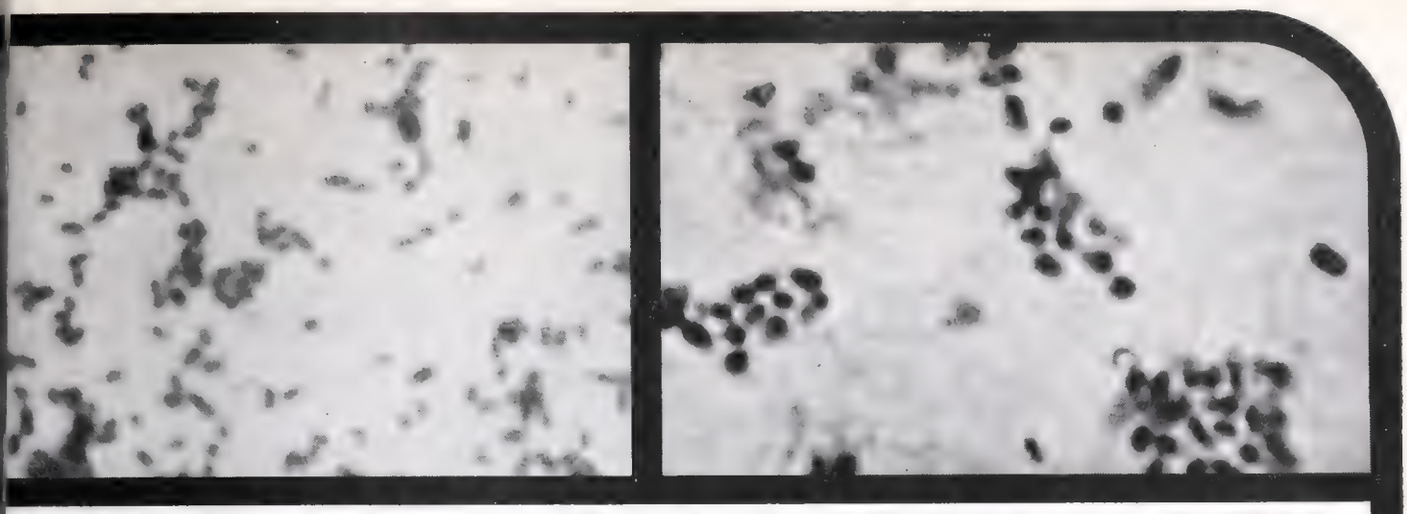
Indications: Acute, recurrent or chronic nonobstructed urinary tract infections (primarily pyelonephritis, pyelitis and cystitis) due to susceptible organisms. **Note: Carefully coordinate *in vitro* sulfonamide sensitivity tests with bacteriologic and clinical response; add aminobenzoic acid to follow-up culture media. The increasing frequency of resistant organisms limits the usefulness of antibacterials including sulfonamides, especially in chronic or recurrent urinary tract infections.** Measure sulfonamide blood levels as variations may occur; 20 mg/100 ml should be maximum total level.

Contraindications: Sulfonamide hypersensitivity; pregnancy at term and during nursing period; infants less than two months of age.

Warnings: Safety during pregnancy has not been established. Sulfonamides should not be used for group A beta-hemolytic streptococcal infections and will not eradicate or prevent sequelae (rheumatic fever, glomerulonephritis) of such infections. Deaths from hypersensitivity reactions, agranulocytosis, aplastic anemia and other blood dyscrasias have been reported and early clinical signs (sore throat, fever, pallor, purpura or jaundice) may indicate serious blood disorders. Frequent CBC and urinalysis with microscopic examination are recommended during sulfonamide therapy. Insufficient data on children under six with chronic renal disease.

Precautions: Use cautiously in patients with impaired renal or hepatic function, severe allergy, bronchial asthma; in glucose-6-phosphate dehydrogenase-deficient individuals in whom dose-related hemolysis may occur. Maintain adequate fluid intake to prevent crystalluria and stone formation.

Adverse Reactions: *Blood dyscrasias* (agranulocytosis, aplastic anemia, thrombocytopenia, leukopenia, hemolytic anemia, purpura, hypoprothrombinemia and methemoglo



Enterobacter sp.—Gram stain showing characteristic gram-negative rod

Proteus mirabilis—Flagella stain

■ **Your option: tablets or suspension**

Gantanol Tablets or the pleasant-tasting, cherry-flavored Suspension can provide dependable antibacterial activity to control susceptible nonobstructed cystitis and pyelonephritis. Symptomatic improvement usually may be expected to begin within 24 to 48 hours. Usual precautions with sulfonamide therapy should be observed, including adequate fluid intake. Gantanol is generally well tolerated, with relative freedom from complications; the most common side effects are nausea, vomiting and diarrhea. Frequent c.b.c.'s and urinalyses with microscopic examination are recommended during therapy.

*Data on file, Hoffmann-La Roche Inc., Nutley, N.J.

In nonobstructed cystitis due to susceptible organisms

Gantanol® B.I.D. (sulfamethoxazole) Basic therapy

binemia); *allergic reactions* (erythema multiforme, skin eruptions, epidermal necrolysis, urticaria, serum sickness, pruritus, exfoliative dermatitis, anaphylactoid reactions, periorbital edema, conjunctival and scleral injection, photosensitization, arthralgia and allergic myocarditis); *gastrointestinal reactions* (nausea, emesis, abdominal pains, hepatitis, diarrhea, anorexia, pancreatitis and stomatitis); *CNS reactions* (headache, peripheral neuritis, mental depression, convulsions, ataxia, hallucinations, tinnitus, vertigo and insomnia); *miscellaneous reactions* (drug fever, chills, toxic nephrosis with oliguria and anuria, periarteritis nodosa and L. E. phenomenon). Due to certain chemical similarities with some goitrogens, diuretics (acetazolamide, thiazides) and oral hypoglycemic agents, sulfonamides have caused rare instances of goiter production, diuresis and hypoglycemia as well as thyroid malignancies in rats following long-term administration. Cross-sensitivity with these agents may exist.

Dosage: Systemic sulfonamides are contraindicated in infants under 2 months of age (except adjunctively with pyrimethamine in congenital toxoplasmosis).

Usual adult dosage: 2 Gm (4 tabs or teasp.) initially, then 1 Gm *b.i.d* or *t.i.d.* depending on severity of infection.

Usual child's dosage: 0.5 Gm (1 tab or teasp.)/20 lbs of body weight initially, then 0.25 Gm/20 lbs *b.i.d.* Maximum dose should not exceed 75 mg/kg/24 hrs.

Supplied: Tablets, 0.5 Gm sulfamethoxazole; Suspension, 0.5 Gm sulfamethoxazole/teaspoonful.

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Division of Hoffmann-La Roche Inc.
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Pinworm therapy is often a family affair

Contraindications: History of hypersensitivity to thiabendazole.
Warnings: If hypersensitivity reactions occur, drug should be discontinued immediately and not resumed. Rarely, erythema multiforme has been associated with thiabendazole therapy; in severe cases (Stevens-Johnson syndrome), fatalities have occurred. Because CNS side effects may occur quite frequently, activities requiring mental alertness should be avoided. Safe use in pregnancy or lactation has not been established.
Precautions: Ideally, supportive therapy is indicated for anemic, dehydrated, or malnourished patients prior to initiation of anthelmintic therapy. In presence of hepatic or renal dysfunction, patients should be carefully monitored.
Adverse Reactions: Most frequently encountered are anorexia, nausea, vomiting, and dizziness. Less frequently, diarrhea, epigastric distress, pruritus, weariness, drowsiness, giddiness, and headache have occurred. Rarely, tinnitus, hyperirritability, numbness, abnormal sensation in eyes, blurring of vision, xanthopsia; hypotension, collapse; enuresis; transient rise in cephalin flocculation and SGOT; perianal rash, cholestasis and parenchymal liver damage; hyperglycemia; transient leukopenia; malodor of the urine, crystalluria, hematuria; appearance of live Ascaris in the mouth and nose. Hypersensitivity reactions

Chewable Tablets 500 mg Mintezol®
(THIABENDAZOLE | MSD)

so easy to take everyone in the family can keep to the regimen you prescribe

include: fever, facial flush, chills, conjunctival injection, angioedema, anaphylaxis, skin rashes, erythema multiforme (including Stevens-Johnson syndrome), and lymphadenopathy.
Supplied: Chewable tablets, containing 500 mg thiabendazole, in boxes of 36, strip packaged, individually foil wrapped; Suspension, containing 500 mg thiabendazole per 5 ml, in bottles of 120 ml.

For more detailed information, consult your MSD representative or see full prescribing information. Merck Sharp & Dohme, Division of Merck & Co., INC., West Point, Pa. 19486

MSD MERCK SHARP & DOHME

addendum

INDICATION | DOSAGE SCHEDULE

MINTEZOL® (Thiabendazole, MSD) has demonstrated effectiveness against a broad spectrum of nematode infections. Dosages are weight related. For your convenience, the information in the weight-dose chart below is included in the full prescribing information and in the 1973 edition of PDR.
The recommended maximum daily dose of MINTEZOL is 3 g (6 tablets).
MINTEZOL should be given after meals if possible. Dietary restriction, complementary medications, and cleansing enemas are not needed.
The usual dosage schedule for all conditions is two doses per day. The size of the dose is determined by the patient's weight.

Weight-dose chart:

WEIGHT (lb)	EACH DOSE (g)	TABLETS
25	0.25	½
50	0.5	1
75	0.75	1½
100	1.0	2
125	1.25	2½
150 & over	1.5	3

The regimen for each indication follows:

INDICATION	REGIMEN	COMMENTS
Pinworm disease	Two doses per day for 1 day. Repeat in 7 days. This regimen is designed to reduce the risk of reinfection.	If this is not practical, give 2 doses per day for 2 successive days.
Threadworm,* large roundworm,* hookworm,* and whipworm* disease	Two doses per day for 2 successive days.	A single dose of 20 mg/lb or 50 mg/kg may be employed as an alternative schedule, but a higher incidence of side effects should be expected.
Creeping eruption	Two doses per day for 2 successive days.	If active lesions are still present 2 days after completion of therapy, a second course is recommended.
Symptoms of trichinosis* during the invasive phase of the disease	Two doses per day for 2 to 4 successive days according to the response of the patient.	The optimal dosage for the treatment of trichinosis has not been established.

*Clinical experience with thiabendazole for treatment of each of these conditions in children weighing less than 30 lb has been limited.

Texas Physicians' Directory

Allergy

PETER B. KAMIN, M.D.
Certified American Boards of Pediatrics and Allergy
Allergy and Immunology

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7711 Louis Pasteur Drive, San Antonio, Texas 78229
Phone 512-696-4405 or 227-6331

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Ramon Garrido, M.D. (Certified American Board of Pediatrics)
D. W. Waddell, M.D.
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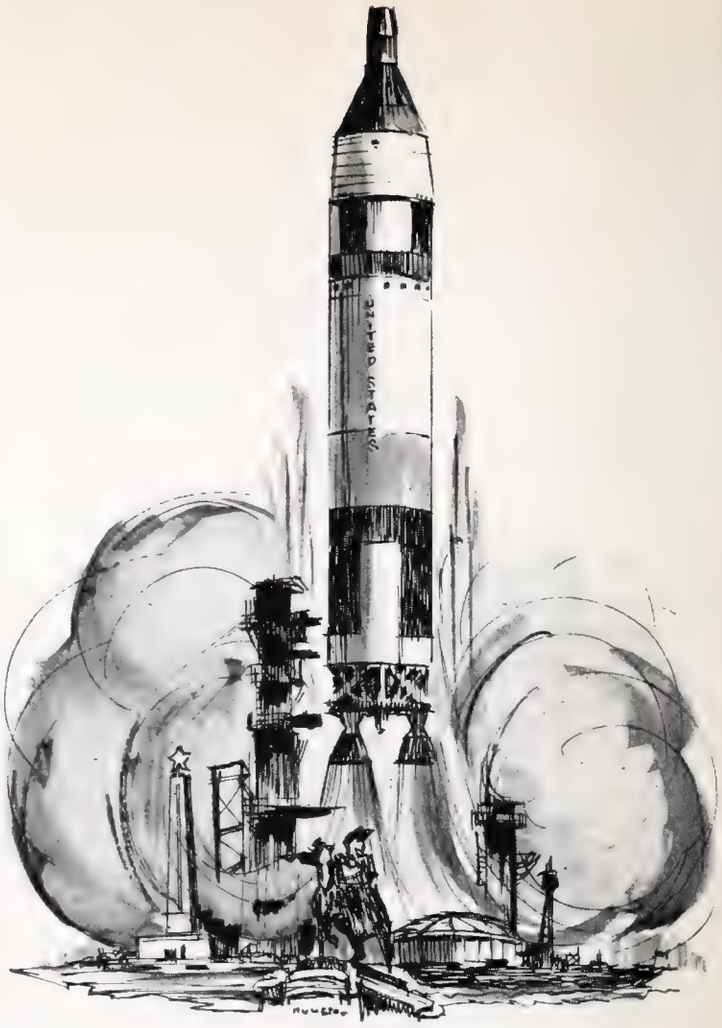

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ADVERTISING & BUSINESS OFFICES: Texas Medical Association, 1801 North Lamar Blvd., Austin 78701; Telephone 512-477-6704.

PRINTING OFFICES: Texas Medicine, c/o Stafford-Lowdon Company, 1114 West Daggett, Fort Worth 76104.

Editorials

CONSTITUTIONAL CONVENTION IMPORTANT TO MEDICINE

Pursuant to a constitutional amendment approved by Texas voters, the Constitutional Revision Commission has been meeting during 1973 to develop testimony and facts and to make recommendations to the Texas Constitutional Convention of 1974. The Convention will begin Jan 8, 1974, and its composition will be the same as that of the 63rd Legislature.

The TMA Council on Medical Legislation has been following the meetings of the Constitutional Revision Commission, and has filed a brief with reference to Article XVI, Section 31 of the Texas Constitution.

Since the current Constitution was adopted almost 100 years ago, Article XVI, Section 31 has been in the Constitution.

More than 20 appellate courts have construed the language of this Section, which states: "The Legislature may pass laws prescribing the qualifications of practitioners of medicine in this state, and to punish persons for malpractice, but no preference shall ever be given by law to any schools of medicine."

These appellate courts have said that the Legislature may not pass laws which would license individuals to do those acts which constitute the practice of medicine unless all such individuals meet the same educational and examination standards as required of all other licensees.

This section of the Constitution has been used in at least two instances to strike down legislation which would have constituted a preference; these were the 1943 Chiropractic Act and the Naturopathic Act.

The TMA believes that this Section of the Constitution has served the people well and that any person licensed and allowed to treat illness, disease, or physical conditions should meet the same educational and examination requirements as those set forth in the Medical Practice Act of Texas. Members of the Council on Medical Legislation believe that if a person, properly schooled and trained, has met the standards set forth by the Medical Practice Act and desires to practice any school of medicine, then he should be at liberty to do so.

The Constitutional Revision Commission, after hearing the evidence on this Section, voted to recommend retention of Article XVI, Section 31, to the Constitutional Convention. The Council wishes to thank these 37 individuals publicly for the manner in which they conducted themselves and for the many long hours they gave to the people of Texas. We especially appreciate the manner in which they studied this Section of the Constitution, and for the favorable recommendation they made.

Any arguments that the TMA's support of this Section was on economic grounds, or that it is a threat to the livelihood of other professions, or is a vested interest are unfounded. The sole reason for our position is that it has proven to be a safeguard to the health of Texans. The thrust of our argument is the valid protection it affords to the health care consumer.

The Council and the TMA feel that organized medicine has a responsibility to express its convictions publicly as to what may be constructively achieved by law, regulation, and the Constitution; what may be adversely affected by such; and what is not amenable to legislation.

The Council recommends that all members of TMA become better acquainted with this important subject and discuss it with members of the Texas House and Senate. Further, we recommend that TMA members urge their state Senators and Representatives to follow the recommendations of the Constitutional Commission, and to retain Article XVI, Section 31 in its present form in any revision of the Constitution.

Joseph T. Ainsworth, MD, Houston, Chairman,
TMA Council on Medical Legislation.

MENINGOCOCCAL DISEASE: TREATMENT FOR CONTACTS

Many queries are received concerning medical management of contacts of a case of meningococcal disease. The following are recommendations by the Center for Disease Control, Atlanta, Ga:

1. The suspected case should be appropriately isolated immediately. Unnecessary contact with hospital personnel and other patients should be strictly proscribed. Antimicrobial therapy should not await results of culture or antimicrobial sensitivity testing.

2. Persons in the hospital and the community who have had intimate respiratory contact with such a patient should be identified. Examples of intimate exposure include persons sharing the same lodging, or hospital personnel giving mouth-to-mouth resuscitation to a patient with disease.

3. Persons having intimate contact should be strongly considered for antimicrobial prophylaxis. Such treatment should *not* await laboratory confirmation of antimicrobial sensitivity results.

4. Based upon currently available data, the following regimens should be considered for *chemoprophylaxis of adults* in the following order of preference: (a) minocycline, 100-200 mg orally every 12 hours for five days; or (b) rifampin, 600 mg orally once daily for five days.

5. These drugs should *not* be used for treating meningococcal disease. Sulfonamides should be administered *orally* if the organism has been reliably demonstrated to be sulfonamide-sensitive.

6. *Most Important:* Intimate contacts should be placed under clinical surveillance; immediate clinical evaluation is indicated if fever or other signs or symptoms consistent with meningococcal disease develop.

7. Antimicrobial prophylaxis is not indicated for hospital personnel having less than intimate contact such as providing routine care, cleaning patient's room, or laboratory exposure to clinical specimens. Treatment of casual contacts may facilitate the emergence of resistant organisms, may unnecessarily expose casual contacts to untoward drug reactions, and may create a false sense of risk in these persons that does not appear justified by available data.

8. Microbiologic surveillance of hospital personnel should not be practiced except as part of an epidemic investigation or special epidemiologic studies; antimicrobial therapy or removal from patient care activities of an asymptomatic employee carrier of meningococci is not necessary or practical.[1]

9. Penicillin remains the drug of choice for treating meningococcal disease[2]; however, it has failed to eradicate or prevent meningococcal carriage[3,4] even when large doses have been used.[5,6] Also, erythromycin and tetracyclines have been shown to be ineffective in eradicating carriage, and ampicillin has not always been effective.[3,6,7] In recent studies, rifampin, a bactericidal antibiotic with a broad antimicrobial spectrum, was shown to be 80-90% effective in the elimination of the *N meningitidis* carrier status when 600 mg of rifampin was given daily for four days.[8,9] However, rapid development of rifampin-resistant strains has been noted, and this may limit long-term usefulness of this drug in the control of epidemics or in treating contacts.[10,11] Commercial labeling for rifampin recommends treatment of *children* as meningococcal carriers as follows: 10-20 mg/kg body weight, not to exceed 600 mg/day. It is reported that data is not available for determination of dosage for children under age five. Minocycline hydrochloride is a semisynthetic derivative of tetracycline. It is bacteriostatic and has been shown to eliminate meningococci from the nasopharynges of approximately 60% of healthy carriers.[7,12] It is *not* indicated for the treatment of meningococcal infections. When strains of

meningococci isolated prior to treatment were paired with strains isolated after treatment, an increase in resistance to minocycline could not be demonstrated.[7,12] Current minocycline labeling warns that the use of drugs of the tetracycline class during tooth development (last half of pregnancy, infancy, and childhood to the age of 8 years) may cause permanent discoloration of the teeth (yellow-gray-brown). This adverse reaction is more common during long-term use of the drugs, but has been observed following *repeated short-term* courses. Enamel hypoplasia has also been reported. Commercial labeling warns that tetracycline drugs are not likely to be effective or are contraindicated. In addition, current minocycline labeling gives the following warnings:

a. The drug is contraindicated in persons who have shown hypersensitivity to any of the tetracyclines.

b. Photosensitivity is manifested by an exaggerated sunburn reaction in some individuals taking tetracycline.

c. In patients with significantly impaired renal function, higher serum levels of tetracycline may lead to azotemia, hyperphosphatemia, and acidosis.

d. Central nervous system side effects including dizziness, vertigo, or light-headedness have been reported in certain patients.

The safety of minocycline HCl for use during pregnancy has *not* been established. Results of animals studies indicate that tetracyclines cross the placenta, are found in fetal tissues, and can have toxic effects on the developing fetus. Evidence of embryotoxicity has also been noted in animals treated early in pregnancy.

S. J. Lerro, MD, MPH, Austin, Director, Division of Epidemiologic Surveillance, Communicable Disease Services, Texas State Department of Health.

References

1. Center for Disease Control: National Nosocomial Infections Study. Quart Report, 4th Quarter, Atlanta, Ga, (Oct) 1972.

2. Swartz MN, Dodge PR: Bacterial meningitis—a review of selected aspects. I. General clinical features, special problems and unusual meningeal reactions mimicking bacterial meningitis. New Eng J Med 272:779-787, 1965.

3. Sanders E, Deal WB: Prevention of meningococcal infections. J Infect Dis 121:449-450, 1970.

4. Artenstein MS, Lamson TH, Evans JR: Attempted prophylaxis against meningococcal infection using intramuscular penicillin. Milit Med 132:1009-1011, 1967.

5. Foster MT, Sanders E, Ginter M: Epidemiology of sulfonamide-resistant meningococcal infections in a civilian population. Amer J Epidem 93:346-353, 1971.

6. Hoeprich PD: Prediction of antimeningococcic chemoprophylactic efficacy. J Infect Dis 123:125-133, 1971.

7. Dowd JM, Blink D, Miller CH, et al: Antibiotic prophylaxis of carriers of sulfadiazine-resistant meningococci. J Infect Dis 116:473-480, 1967.

8. Beam WE Jr, Newberg NR, Devine LF: The effect of rifampin on the nasopharyngeal carriage of *N meningitidis* in a military population. J Infect Dis 124:39-46, 1971.

9. Deal WB, Sanders ES: Efficacy of rifampin in treatment in meningococcal carriers. New Eng J Med 281:641-645, 1969.

10. Guttler RB, Counts GW, Avent CK, et al: Effects of rifampin and minocycline on meningococcal carrier rates. J Infect Dis 124:199-205, 1971.

11. Weidmer CD, Dunkel TB, Petty JFS, et al: Effectiveness of rifampin in eradicating the meningococcal carrier state in a relatively closed population: Emergence of resistant strains. J Infect Dis 124:172-178, 1971.

12. Devine LF, Johnson DP, Hagerman CR, et al: Selective minocycline and rifampin treatment of group C meningococcal carriers in a new naval recruit camp. Amer J Med Sci 263:79-93, 1972.

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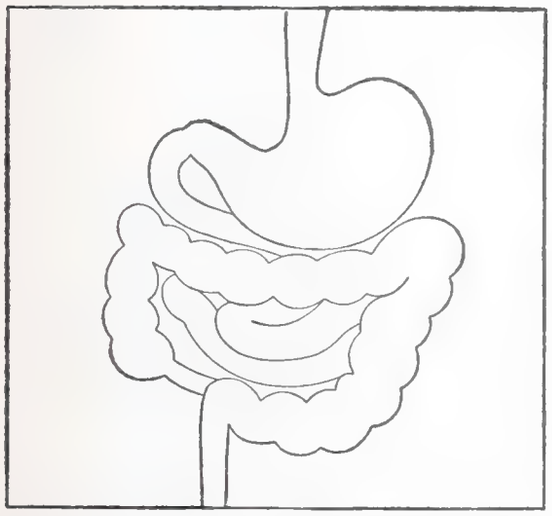

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Luke, the Beloved Physician

Lucanus, or Luke, was the only apostle who was not a Jew. He, like Saul of Tarsus, later to be known as Paul, never saw Christ. Possibly a factor in their deep friendship was their difficulty with the original apostles who stubbornly believed that Christ was incarnated and died only for the salvation of the Jews. Luke's friendship with Paul began when he was called in consultation after Paul had had a seizure. It was Paul who spoke of Luke as "the beloved physician."

Luke was the son of a Greek scholar who had been bound as a slave to a Roman noble. His father, because of his knowledge. was able to save the life of their master in a time of pestilence. Out of gratitude, the Roman set his slave free to live as an honored teacher in his house, and to teach young Luke to be a physician. When he had learned all his father could teach him, their patron sent Luke to the Temple Schools where the arts of healing were taught. He possibly studied at Tarsus and also at the great University at Alexandria. He later was sent on journeys to other lands—to Persia, to India, and to Egypt. It was his task to collect the most precious remedies the doctors in those countries had discovered and to learn their uses. He accumulated what was perhaps the finest collection of such drugs the world contained.

Luke became interested in the new religion because of its healing power. He heard about Peter, who had healed a man lame from birth. He accepted the explanation when Peter said that in the name of Jesus Christ he had invoked divine power to heal the man.

In questioning about the healing incidents, he discovered in almost all cases the Master had declared, "Thy faith hath made thee whole." It was this power in the disciples which Luke observed, understood, and embraced.

Luke was broad in his sympathies, compassionate toward the poor and the outcasts of society, genuinely pious, self-effacing, radiantly joyful, charmingly urbane, and deeply loyal. Many physicians throughout history have striven to attain these attributes and to model their attitudes toward medical practice after the teachings of Luke.

May God bless each of you throughout the New Year!

Charles B. Dryden M.D.

Charles B. Dryden, MD, President, Texas Medical Association.

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